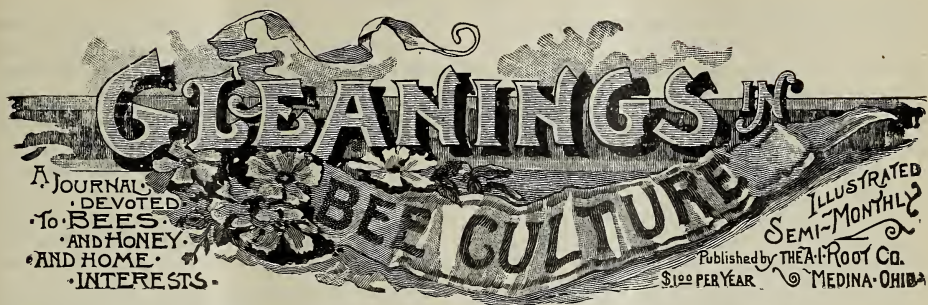


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No. 20.



BROTHER A. I., is that Anti-saloon League dead? If not, lots of us would like to know what it's doing.

W. D FRENCH thinks eucalyptus is the thing to plant to avoid years of failure in the honey crop.—*Pacific Bee Journal*.

LINDEN seedlings come up of their own accord on our place too, Bro. Root, where they fall from the trees on a strawberry-bed.

REV. E. T. ABBOTT says it is an advantage to mix saltpeter with sulphur half and half to make sure of burning when fumigating combs.

THE ONLY HONEY the *Pacific Bee Journal* has heard of in Los Angeles County is two tons extracted by Mrs. C. Gray, from 100 colonies. "Her theory is planting bee-forage."

"PRACTICAL WORK amid the hum of the busy bee in the apiary and the buzz-saws in the factory is what it takes to make an able editor of a bee-journal."—S. E. Miller, in *Progressive*.

FEEDING by tipping up the front end of the hive and pouring the feed right into the entrance is more or less practiced. But by some means I found a good many dead bees about the hive when I fed that way.

THE EDITOR of *Pacific Bee Journal* offers \$25 to the man who comes the greatest distance outside the county and exhibits at the fair; \$5 to the man who sells most honey in the exhibit building, and \$3 to the man who comes from the greatest distance. If I weren't so busy I might try for that \$3.

HERE'S THE WAY J. F. McIntyre weighs: "With a spring balance that weighs over 100 pounds I go along the backs of the hives and just weigh the back end: if it weighs 35 pounds I feed at once, because I know that they are just out of honey. The figures range from 35 to 70 pounds, with supers on."—*Pacific Bee Journal*.

THE CHANGE to the new color in the cover of GLEANINGS seems to meet with approval on all hands, but I hope no such radical change will occur again for a long time. I haven't yet got used to it so but that I feel disappointed at not finding GLEANINGS in the mail, and wonder what that light-blue-covered thing is.

FORMERLY I thought bees both could and did cut into sound grapes, but now I can't go as far as Elias Fox, page 706, for I feel pretty sure they would if they could. Bees can tear wood, but not the softer grape. If E. F. will try biting a piece out of a big pumpkin he may understand why a bee can't bite a grape.

MY HONEY'S SOLD, but yet it's a real pleasure to see that there's a little upward tendency in prices. The fact is, that an impression got afloat that there was a bigger general crop than I think the facts warranted, and that impression made a depression in prices from which they are now beginning to recover.

ENOUGH! hold on! let up! Messrs. Editor, Skylark, and Norton. If Marengo folks are the only ones that talk about sections with no wood, then Marengo folks are wrong and must amend their English, and that's all there is about it. And yet, when the A B C talks about using up unfinished sections in one's own family—

WE GOT A GOOD HINT at Brother Packham's wedding. When the party were seated around the room after coming from the church, among the refreshments handed round were thin slices of bread, on which a spoonful of honey was dropped in the middle. The recipient doubled the bread up, making a delightful little sandwich.—*Australian Bee Bulletin*.

C. P. DADANT did a bright thing by way of an object-lesson to the scholars of the public school. A day was set, the scholars bringing grapes, pears, peaches, to see if the bees would attack them. "A little honey served to attract the bees. They came in numbers. Then the honey was removed and some damaged fruit given them. On this they worked, though not so readily as on the honey. After they got fairly started to work, the damaged fruits were re-

moved and sound fruits brought forward. Within twenty minutes the bees had left in disgust."—*American Bee Journal*.

PROF. COOK reports in *American Bee Journal* that a little beetle imported from Australia, a red and black lady-bird, *Novius* [*Nedalia*] *cardinalis*, has within two years almost entirely banished the white scale from the fruit-groves of California. He is hopeful that the black scale may also be brought to time by means of another importation, a little black lady-bird, *Rhizobius ventralis*.

DON'T THINK of keeping unfinished sections to use next year without having them thoroughly cleaned out this fall, and by the bees. If you extract them, let the bees clean them out afterward. See to this right away. Let the bees work on them for a few days after they have the honey emptied. The least granule of honey left will spoil them for use next season.

I HAVE about 700 colonies in the bean-fields. The honey, when thoroughly ripened, has no superior, both in color and flavor; but if taken off green or partly so, it sours in a very short time. The sage I can take off when about two-thirds or nearly capped, but the bean honey has to be well capped, and then left upon the hive for a time, for safety.—*M. H. Mendleson, in Pacific Bee Journal*.

TO AVOID having combs torn by the bees when getting them to clean out unfinished sections, use one of two ways: Put out the whole lot entirely open, so the bees will have free access to all parts. But don't do that unless you have a big lot of sections—perhaps ten or more for each colony. If you have too few sections or too many bees, pile two to five supers of sections in a pile, and close all up tight except one entrance large enough for one bee at a time.



AT WHAT AGE WILL BEES FIRST GATHER STORES?

By F. Greiner.

Will bees ever go out in search of food before being from 14 to 18 days old?

On this question authorities are as yet divided. Dr. Miller says yes; Vogel, of Germany, no. Of course, one of the two must be wrong. In the *Bienenzeitung* of 1891 Vogel had a long article in which he showed that bees, less than 18 days old, would sooner starve than go out in search of food. I was inclined to think he was right, not knowing the reasons that led Dr. Miller to arrive at his conclusion. But the

more I thought of it, the more uncertain I became. Dr. M. would have spoken his proverbial "I don't know" if he had not had conclusive evidence. I concluded, and so I decided to settle the question to my own satisfaction; for it seems, although we may read and study the ablest written articles giving the best of proof, nothing convinces us quicker or so thoroughly and lastingly as what we have seen with our own eyes. Seeing is not only believing but knowing. I will now tell the reader what I found out.

In order to see how young a bee would work in the field I thought it necessary to form a colony out of all just hatching bees. So, on the 4th of June I took four nice clean combs, all worker size, and gave them to as many different colonies, placing them in the center of their respective brood-nests. On the 25th of June I collected them again, placing them in a previously and especially prepared chamber with wire-screen bottom, setting the whole over a very populous colony, quilts and cushion removed. In this way, and by means of hot soap-stones on top, and wrapping all in blankets, I tried to keep the temperature up to the desired point so the brood and bees would not suffer either way. When I placed these brood-combs in the above-named chamber, some bees had already commenced hatching from them; on the 28th of June quite a number of bees had gathered, forming a regular cluster. I gave them then a new and somewhat isolated location, and for a fly-hole I opened a previously bored $\frac{3}{8}$ -inch hole, being about 2 inches above the bottom-board. The oldest bees in this little colony were now just three days old; but not one came out, not even peeped out that afternoon, although the sun shone warm. The next afternoon a very few bees showed themselves; some few specked up the outside of the hive a very little around the fly-hole; but not one attempted to fly off. The next day, at 3 o'clock in the afternoon (June 30) the oldest bees being then just five days old, there was suddenly a commotion, to be noticed from quite a distance. I was at my post in a minute. Quite a number of bees were flying off and kept flying, apparently in for a play, and, judging from the specking the previous day, perhaps for a cleansing flight. This lasted some 15 or 20 minutes. Then things became quiet again. Then, all at once, I imagined seeing a bee slipping into the entrance-hole, carrying a tiny load of pollen. The bee disappeared from my sight so quickly I could not be certain; while meditating and wondering whether it really could be, another bee struck the little $\frac{3}{8}$ -inch entrance-hole, but also disappeared quickly. Several more bees came in the same fashion; and, although I was as attentive as I could be, I was still undecided whether there had been pollen in any of their pollen-baskets, the loads they carried being so

small, hardly visible, and the bees always going from my sight so quickly.

The next bee that came was loaded quite a little heavier. This time there was no mistake—the load of pollen was there. The bee carrying it also hit the little round entrance with infallible accuracy. I mention these observations because some one might say, “A strange bee strayed accidentally found the hive.” Taking into consideration that all my other hives have their entrance on a level with the bottom-board, and full width of the hives, it would seem reasonable to suppose any stray bee would drop down on the alighting-board and try to find admittance there; but although I watched quite a few more bees coming in loaded with pollen more or less, every one seemed to know just where the entrance was.

At sundown that day an examination was made. It showed that considerable work had been done to match the combs. Some honey had been changed to different places. The most surprising feature was the presence of unsealed larvæ. The small amount of open brood contained in one of the combs at the time of forming the colony on the 25th of June had not suffered, but had seemingly been cared for all right. A subsequent experiment along this line did not turn out so well. A colony having cast a prime swarm on the 26th of June was stripped from all its bees July 1st. The brood-combs were treated in precisely the same manner as in the other case, and on the third day I found all open brood perished. Why this difference, I am not fully prepared to say.

Our basswood-honey season opened on the morning of July 1st. My little experimental colony sent out its workers as regular as any other colony in the yard, they bringing both honey and pollen. No bee was at this time quite six days old. On examining the colony on the evening of this day, much new honey could be seen which dropped from the combs when held in a horizontal position.

From this time on no marked difference could be noticed between this or any other colony, except, of course, in strength. A queen was now introduced, and I should have liked to make further observations, the bees being black and the queen an Italian; but, as it happened, she proved a drone-layer, was removed later, and one of Root's tested queens substituted. On the 25th of July she commenced to lay, and she soon filled the combs nicely. Now some of the bees are about 15 days old, and many of them may be seen bringing in pollen, the honey season being at an end.

It was not only curiosity that prompted me to make my experiment, but I think the question has a bearing upon the practical side of our pursuit. If a bee can not be induced to go out in search of food before 18 days of age, then we shall have to be all the more careful when

forming new colonies and nuclei so that enough field-bees may be present to conduct the business.

I confess I have often worried over this matter, even in case of practicing the Heddon method of prevention of after-swarms, etc.

Naples, N. Y., Aug. 30.

[Friend G., the above brings to mind quite vividly some experiments of my own made years ago; and my decision, so far as I can remember now, agreed very exactly with what you say. When I first commenced with the Italian bees was a good deal disappointed to see yellow bees all through the hive and all over the combs, but none out gathering honey or pollen. A little later they would be out in golden showers while taking their playspell; but even then the honey and pollen seemed to be all gathered by the ordinary black bees. I began to be almost disappointed, thinking the Italians were pretty to look at, but that they were not going to be good for work. After the young bees were about three weeks old, however, then they began to get down to regular field work that satisfied me. Later on, in forming nuclei under about the conditions you mention, I discovered that young Italians could gather both honey and pollen if they were absolutely obliged to do so; and I found that, under the stimulus of necessity, they would go out into the fields almost two weeks sooner than they did usually where there are plenty of veterans in the hive. By referring to the last part of the subject “Age of Bees,” in the A B C book, you will see that the statement there agrees very exactly with the results of your experiments.—A. I. R.]

A LETTER FROM JAMAICA.

FROM AN OLD FRIEND AND SUBSCRIBER OF
GLEANINGS.

By H. G. Burnet.

Friend Root:—I do not suppose that you remember that, when you were at Avon Park, at the nursery, during your Florida travels, when you and friend Keck were leaving, I told you—I was tired of being frozen out in Florida, and intended to go to Jamaica, where frost and cold are unknown, and where flowers and bees can luxuriate in the warm sunshine the year round. Well, we are here—wife, son, and self, and are very well pleased with the wondrous beauty of this lovely tropic island.

You may not know that the word “Jamaica” means the “land of woods and waters,” and, I might say, of caves as well; and knowing your interest in such matters I am sure you would enjoy a vacation spent in visiting the many lovely springs, waterfalls, and caves, as well as the four botanic gardens in various parts of the island. It seems strange that we should find the climate even pleasanter than that of Florida, but so it is. The mercury at our place has not been above 89°, and, in fact, reached that point only once in the past two months. But when we consider the small size of the island—144 miles long and only 49 wide at the widest point—also the mountainous character of most of the island, and the constant northeast trade-

winds, the matter is explained. With such a climate, a copious rainfall, and rich soil, it is to be expected that vegetation grows rankly, and so it does over the greater part of the island.

Among the many varieties of tropical flowers are many that yield honey freely. Chief of these is logwood, from which the dye is extracted. It is a moderate-sized tree with small compound leaves and yellowish-white blossoms that open during the months of March, April, May, and into June. The honey is white, thick, and of a fine delicate flavor, and is first-class. The "sound of the going among the tree-tops" when logwood blooms is one that makes glad the bee-keeper. *Lignum-vitæ*, ebony, mahogany, and all the palm family, are noted honey-yielders, besides a host of vines, shrubs, and plants of humbler growth from which bees gather pollen and some honey. It is impossible for bees to starve unless queenless and weak. There are not very many advanced bee-keepers in the island, and only one queen-breeder. Bees are kept in boxes, gums of logs, and sections of bamboos.

In another letter I will give a further account of bee-keeping in Jamaica, with some sidelights on life in this tropic land.

Ewarton, Jamaica, Sept. 22.

[On page 603, 1895, I spoke of my visit to the nursery of Mr. H. G. Burnet. Well, I thought he was very nicely situated, and had an exceedingly pretty place at Avon Park; but you notice what he says in the letter above about Jamaica. I confess his description makes me feel very much like taking a trip to that island; but, oh dear me! it costs a lot of money to go so far, for I made some inquiry when I was in Florida; and just now it seems a Christian duty to be careful about wasting money that is needed in so many directions.—A. I. R.]

UNFINISHED SECTIONS.

HOW TO FEED THE HONEY OUT OF THEM.

By Earl C. Walker.

For two seasons I have practiced a plan of emptying unfinished sections which has been very satisfactory, and may prove of interest to comb-honey producers. After the honey season has closed I collect all the unfinished sections and place them in empty supers. Then during August and September, when no honey is coming in, I tier them up in the apiary, leaving an entrance just large enough for a single bee to pass in. The bees soon find them and carry on the "quiet method of robbing" which has been recommended in GLEANINGS. Thus the partly filled sections are cleaned up, and at the same time the bees are kept busy and out of mischief during the dry summer months.

Another plan of emptying unfinished sections is accomplished thus: At dusk, place the sections in front of any colony which may need feeding, and by morning they will be emptied.

The super should be stood on end against the alighting-board, so that the bees can readily pass back and forth from the hive to the sections. The sections having been emptied, I store them away in a room free from mice and dust, and in the spring Taylor's method of using drawn combs to secure comb honey is practiced.

FEEDING AND FEEDERS.

Walter S. Pouders, in his little book entitled "Busy Bees and How to Manage Them," gives the best method I have ever heard of. It is as follows: At night tilt the hive back and prop it up with a board; then pour the syrup on the bottom-board, and the next morning the hive can be let down again, as the syrup will have been stored in the comb. Don't be afraid of drowning the bees by pouring the syrup in at the entrance, as they'll use the combs as ladders. To use this method the hives must have been in use long enough to be well propolized, otherwise there is some danger of the syrup leaking out. In the fall, when it is time to feed, I go through the apiary at dusk and prop up all the hives that require feed. I then go around with an old coffee-pot of syrup and pour about a gallon in each entrance. This I repeat two or three evenings according to the amount of feeding to be done. Feeding used to be the most disagreeable and provoking work about the apiary; but by this method I find it easy. I have tried feeders regulated by thumb-screws, Mason jars with perforated lids, bread-pans filled with straw, or covered with cheese-cloth, etc., but they are all too fussy to suit me. The former have a fashion of leaking and letting the syrup run out of the entrance, while the rest are daubly, and drown the bees. The Boardman entrance feeder has none of these faults, and is the only feeder I use when a feeder is required; but Pouders' method given above is ahead of all, as it costs nothing, saves time, is more cleanly, and does not allow the heat of the cluster to escape as do feeders which are placed above the cluster.

BEE-PARALYSIS.

Are there two kinds of bee-paralysis? I notice bee-keepers do not agree in describing the symptoms. In GLEANINGS for July 15, page 536, under the head of "Seasonable Questions," a correspondent in his question describes the disease as follows: "The bees seem to be *swollen* up, and have a shaking motion." "On opening the hive I find many of these *bloated* shaking bees near the ends of the frames," etc. Doolittle says, "I think there is no doubt that the questioner's bees have what is called bee-paralysis." Now, I have seen several cases of bee-paralysis, and in every case the affected bees were very much *emaciated*. Quoting from the A B C of Bee Culture, "The symptoms are a sort of quivering and twitching motion, and finally the bee is so *emaciated* it looks like a

shiny black *skeleton* of what a bee should be." Several other writers give the swollen condition of bees as a symptom of bee-paralysis. Does paralysis affect bees differently, or are there two kinds of the disease?

New Albany, Ind.

[There is one kind of bee-paralysis; but emaciated bees and bloated bees are both specimens of bees affected with the same disease. The emaciation, if the bee lives, comes on *after* the bloating.

Feeding by pouring syrup on the bottom-board from the entrance is not really practicable on hives of the loose-bottom-board type. In hives with fast bottoms, of the old Langstroth pattern, it may do very well.—ED.]

BOTTLING HONEY.

A SPECIAL MACHINE FOR THE PURPOSE.

By J. S. Fowler.

My bottler, or pump, a print of which is inclosed herewith, is designed to be inserted into the usual bung-hole of the barrel, and is made fast by a couple of turns, the screw-threads at *b* tightening in the bung-hole. The cut will explain itself.

There is an inner tube provided with slots

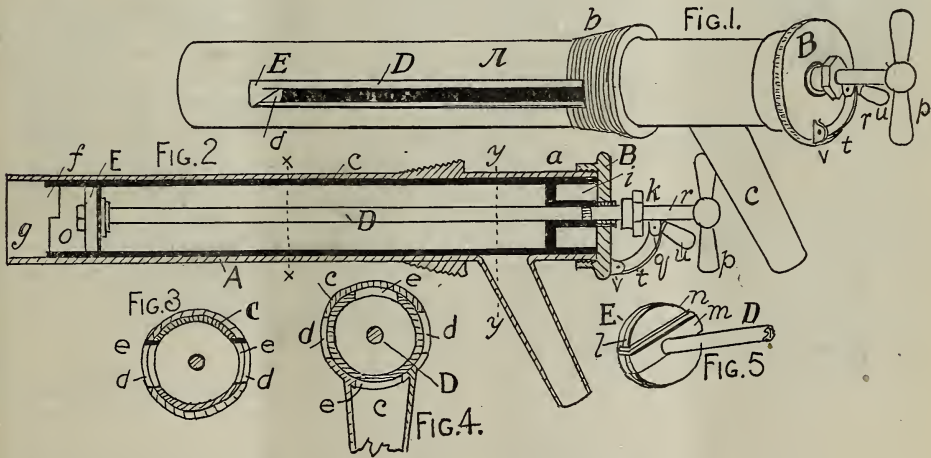
which is now under operator's control. A pull by the handle forces it *out* of the barrel and *into* the bottle. Reverse the handle, closing the front and opening inside parts; and as the piston travels back the honey fills through the slots what would otherwise be a vacuum; and by the time the piston reaches the limit of its stroke, the pump is full, and ready for discharge.

There is no delay, no waiting for the liquid to flow *lengthwise* through the tube. As will be seen at Fig. 3, there are two slots in each tube, so that the liquid has to flow only $\frac{1}{2}$ inch from each side through said slots, to fill the pump, which it will do just as quickly as the operator can push piston to end of stroke.

To fill a bottle, hold it to the discharge, and pull the piston till bottle is full; shut off by a turn, and there will be no drip nor leak.

To fill order for one gallon, give sixteen pulls and shut off by quarter turn and it is done. No funnels are needed — no quart cup nor gallon measure to sit around for flies to stick to.

The pump can be fitted with flexible nozzle or discharge-pipe for bottling if necessary. I also use a shorter discharge-pipe than the one shown in the cut, thus obviating the necessity



FWLER'S HONEY-BOTTLER.

corresponding to similar slots in the outer tube. There is also another but smaller opening in the inner tube, corresponding with the discharge.

By means of the solid-head piston which travels inside the inner tube, the inner tube can be turned one-fourth revolution.

Now to operate. By means of the hand-hole outside, the inner tube is turned so as to close the discharge and open the inside slots. This part being inside the barrel, the honey or syrup immediately fills through the slots, when, by a quarter-turn of inner tube, the discharge is opened, and at the same time the inside slots are closed, thus inclosing half a pint of honey,

of a cap or plug to stop drip, as the turn of the inside tube cuts off the flow. I can fill bottles of castor oil as fast as they can be corked and set away.

It is a necessity in every grocery, and to every handler of honey a great saver of time and patience. I have been unable to put it on the market for lack of means to get it manufactured in quantities.

Grand View, Tenn., Aug. 7.

[Suppose, friend F., you send one of these machines to Byron Walker, care The A. I. Root Co., 118 Michigan St., Chicago. Mr. Walker makes a business of putting honey into glass. He can give it a good test, and report. The machine looks as if it might work well.—ED.]



FRED'S transferring operations went forward systematically. The hives were prepared in the morning, then a good share of the middle of the day was devoted to the transfer, while the later hours of the day were spent in picking up tools and the various articles that help to litter an apiary. Every thing in its proper place,

and put there every evening, was Fred's motto. As a result, the apiary presented a neat appearance.

Matt Hogan was a valuable aid at such times as he could be spared from the ranch, and Fred fully initiated him into the business by allowing him to make a complete transfer. He was much elated over his success, and his bee-fever was augmented to such a degree that he was ambitious to own an apiary of his own.

The first change that comes into the character of an enthusiastic novice in bee culture is the development of observation. This faculty had lain dormant in the mind of Matt Hogan; but now every flower had a new beauty, and the bee was eagerly watched as it gleaned its load of pollen or honey.

One evening he came to Fred's camp, and, with a happy-go-lucky smile and considerable explosiveness, shouted, "Arrah, there, Fred! I've now an apy of me own. Get away wid yer cave of baas and yer bath-tub at the bottom of it. Me baas are more sensible, and dwell in a badger-hole. Did yees ever hear the loikes of that, Fred?"

"Oh, yes! it is quite a common thing to find bees in such queer places in this country. But, Matt, you will have to enter into partnership with Mr. Buell. He has found a colony in a sycamore-tree. I have no doubt he has been transferring to-day, for I fitted him out with a

hive this morning; and now that you have a colony I will do as well by you. You now know enough about bees to know what you want, and you can select any thing you want from the pile."

With many profuse thanks, Matt selected a hive and started with it for the ranch; but Fred halted him and said, "Matt, you heard what Mr. Buell said the other day about a meeting next Sunday at the Dawson ranch? I should like to have you attend with me."

"Fred," said Matt, seriously, as he placed the hive on the ground and sat down upon it, "I should loike to go wid yees; but with yer permission I'd loike first of all to ax a question. Is it a sort of Methodist camp-meeting it is loikes to be?"

"Oh, no! not a bit of it. There's to be no minister there. Mr. Buell will read a little Scripture and make a few remarks, then they will organize a Sunday-school, have singing, and a profitable pleasant time generally. But, Matt, why do you ask about the Methodist feature?"

"Och! nothing much," replied Matt; "only I had a little scrap with a Methodist preacher onct. You see he came at me with a bounce to convert me from the error of me ways, as he called it. 'Why,' says I, 'me good man, I am already converted, and it's meself an' Biddy Malooney that are good and thrue mimbres of the Catholic church.'

'Oh Babylon! the toils of Babylon! the more need thin of your conversion,' he shouted.

"But see here, me friend," says I, 'dhropping yer insult to me church and me intelligence, I would ax yees how it would work fur me to climb over to the Methodist side of the fence and lave me swateheart on the Catholic side?'

"Just the thing," says he.

"And how is that?" says I.

"Why, you could convert her and bring her safely into the fold."

"Be gorry, Mr. Preacher," says I, 'yee'd never say that ef ye knew Biddy Malooney as well as I do.' An', Fred, to make a long sthory short, whin I held out stoutly against his temptations he said I was a son of Belial. I told him that was a lie, fur me father's name was John Hogan. And does ye think I was much to blame, Fred, fur telling him to go to purgatory?"

"I can not say that I do blame you," said Fred.

"Well, Fred, seein' it's only Mr. Buell and yerself that's to lead the maating I don't think I'll bees suffering much to go wid yees."

"Now, Matt, I guarantee that your views respecting religious matters will not be interfered with, and I know you can endure the hour you may spend there."

Saturday evening found the transferring job completed, with no further mishap to the operators. The few lost and old bees that persisted in going back to the old place were humanely caught in hives placed for the purpose, with a frame or two of brood to hold them when the pockets in the cave and all the other isolated cliff colonies had been transferred. Fred had an apiary of 40 good colonies, though the hives

Alfaretta, and a couple of young people from the neighborhood, were ready to start.

"Here, Fred," said Mr. Buell, as he passed the guitar over to him, "this will be your instrument for the day; perhaps you can get your voice in tune while going down the river."

It was a motley crowd that gathered at the Dawson ranch. There was not much attempt at style. A few were coatless, and the urchins were barefoot. The Dawsons themselves were the worst specimens, and showed a crying need for missionary effort.

Mrs. Dawson's vinegary disposition seemed to weaken the dilution of kindly greetings, and a sympathetic interest began to awaken the latent spark of human fellowship that had been so long dormant. She began to take an interest in the preparations, and to feel that



THE MEETING AT DAWSON'S.

were not painted; and though there was some patchwork of the new on the old, the apiary was so arranged that it presented a neat appearance.

The week's work ended, the plans for honey production were laid aside, and the meeting plan considered with Mr. Ghering and the men at the ranch. Fred talked over the project, and the good to be accomplished; all of the men were favorably inclined to attend except José Silvera, a sombre taciturn Mexican who preferred to go up the river to a little half-breed rancheria among his kind. The meeting had been appointed for 2 o'clock Sunday afternoon; and an hour before that time Fred and the men from the Ghering ranch rode up to Mr. Buell's wharf. The latter, with Mrs. Buell,

the world was not all flint and iron, but there was really flesh and blood and kindly feeling. Several religious and non-religious opinions were represented, and nearly every nationality. The West is noted as a land of mixed multitudes, and so here to-day were gathered various interests under the tule awning that had been erected for the occasion. Improvised seats had been made by placing boards across boxes; all faces wore a happy look of expectancy, for this was a new and novel experience to them; and, though they did not realize it at the time, it was an occasion that changed the current of not a few lives.

Mr. Buell made a few introductory remarks respecting the objects in view, and stated that, as various opinions were represented, he hoped

they could all put aside their particular creeds, and meet upon the common ground of charity and good works.

Fred was called upon for a hymn, and rendered, "I know that my Redeemer Liveth." The melody was very appropriate to his voice and the guitar accompaniment; and as the chorus rang out,

Then ask me not to linger long
Amid the gay and thoughtless throng,

Alfaretta, as if remembering some forgotten fragment of what she used to be, joined in the chorus, to the surprise of her immediate friends.

None were so dull they did not observe the rich blending of their voices; and at the conclusion Fred was again surprised to receive a round of applause. This was not exactly an orthodox Sunday proceeding; but in such an exceptional gathering, exceptional things were to be expected.

A lesson from the parable of the good Samaritan, and a few pointed remarks from Mr. Buell upon the blessings of helpfulness in every-day life, concluded that portion of the service.

To-day, in the absence of previous preparation for the Sunday-school, singing, reading choice moral selections, and the formation of classes, were the main features. Led by the guitar, the people readily took up the gospel hymns. With many these hymns had been a part of the home life in the far east; and here on this sunset shore these songs would come to the surface for expression in their more cheerful moments. The old remembered song has enlivened many a weary way, and has been a link to hold the heart fast to the doctrine of the great Teacher; so wherever we find a gathering of people speaking the English tongue, the singing of a gospel hymn will meet with a rousing response. The little meeting thus started was a success, and it was unanimously decided to continue it indefinitely.

The squalid condition of the Dawson children excited the commiseration of the neighbors; and the appearance of Gimp Dawson, a lad of eight years, was extremely forlorn. He wore what appeared to be his father's shirt, once white, but now the color of river mud—chocolate. One sleeve was torn off above the elbow, leaving the arm bare; the other, rent so as to expose the scrawny shoulder. The trousers were about as ragged as the shirt, and held in precarious position with a tow string.

Mr. and Mrs. Buell and Fred were looking the object over carefully, and considering what could be done to better his condition. When Mrs. Dawson noticed them she exclaimed:

"Yer see he's purty near like a ripe warnut—ready ter shuck. Now, Mr. Buell, it don't take so much cloth to kiver my tu girls as it does one kid; an' I figger that my three kids have altogether fifteen legs, arms, and heads, which are etarnally pokin' theirselves through the clothes somewhar, an' it's ben mighty hard work to keep the holes stopped or even puckered up. But whisky did it, Mr. Buell. Whisky means rags," said she, pointing to Gimp; "rags," said she, pointing to another boy with both knees out. "Rags," said she again, with



WHISKY MEANS RAGS, MR. BUELL; WHISKY DID IT!

more bitterness, as she shook her own soiled and torn dress.

"Mrs. Dawson," said Mr. Buell, speaking kindly, "we all know that you have been bearing a heavy burden; and, in accordance with Scripture teaching, we are willing to help you carry your burden. Now, if you will allow Gimp to go home with us we will return him next Sunday with those holes all repaired."

"Well, I declar!" said Mrs. Dawson; "ef you ain't the fust man I've seen in twenty year that'll practice what he preaches. Generally it's preach, preach, an' no practice."

So it was decided; and though Gimp had never been from home, he was not averse to the plan.

"Now, Gimp," said Mrs. Dawson, "yeer goin'

out mungst folks what is; these folks are eddicated. Hitch up yer collar, Gimp; speak when yer spoke tu; but otherwise keep yer tongue clapper shet down."

With this admonition she turned him over to Mr. Buell.

Before they embarked for the return trip, Fred told Mr. Buell that he could use Gimp for a few days in his apiary. "But, land o' Goshen! It would give me the lockjaw or something worse to have him around in that condition."

"Never mind that," said Mrs. Buell. "Come down Tuesday morning and we will have a brand-new boy for you."

LOCATING AN OUT-YARD.

HOW TO CALCULATE ON BEE-RANGES; HOW TO PREVENT THIEVES FROM STEALING.

By Harry Howe.

Late in the season last year I bought two lots of bees to be taken in the spring; so, over winter I had to consider where to locate them. The first step was to take out my "bee-map" and look for unoccupied territory. This map shows the results of years of study of the surrounding country as regards bees and bee-pasture. On it is marked every lot of ten or more colonies as far as I know for miles around. It is a road-map showing all the roads as well as the hills and valleys. One of the first things noticeable is that there is not a bit of unoccupied space for ten miles or so in any direction, while it is twenty in some. My rule is to draw circles of one and one half miles radius from the lots of fifty or more, and one mile from those of less than fifty. Any space not covered by these circles is unoccupied. For a new location there must be room to draw another circle without cutting any of the adjoining circles.

There is another point to be considered just here, however: and that is, that the range covered by a yard is not a true circle, but a more or less irregular figure, depending on the lay of the land. It will extend more than one and one half miles up and down a valley, but less than that over a range of hills. It is seldom that the bees will work over into another valley.

Another thing to consider is, who owns the other bees? One might hesitate to locate as close to a yard belonging to another as he would his own.

In my case I have a yard at Danby, 21 miles south. There is only one lot of forty between there and Ithaca, 7 miles. There is no buckwheat to speak of for about three miles south of Ithaca, on the Danby road, which made it necessary to locate at least four miles south of there. This gave me a space of about six square miles in which to locate.

Now came the immediate location. Up to

this time I could work by the map. The field work came next. This consisted first of riding over every mile of road in the required limits. There were several conditions that had to be met. The yard must be sheltered from the wind, in a valley, in preference to uplands. It must be back from the road, where the bees could not bother passing teams, yet it must be easy to reach to work. The more secluded the spot, the better it would please me. I have no fears of any one disturbing the bees or stealing the honey. So far as I know, no one has ever taken a pound of my honey. I always make it a point to give every one who comes along all he can eat. People soon come to know that, if they want some honey, all they have to do is to get in sight when I am there. This is the plan followed by Mr. W. L. Coggsall with equal success.

The place finally chosen is on the northeast side of a valley. There was an empty house still in good condition that I rented for a honey-house, while the bees are back of the house out of sight of the road. The front yard is so grown up with trees that the bees have to rise away above the road to get out that way. The bees are in the shade about half the afternoon, which seems to be a good thing, at least during hot weather. It is only about three miles down the valley from my Danby yard.

As it stands, my three yards are all near empty houses, and far enough from neighbors so that there is no complaint of the bees disturbing any one. Mr. Coggsall has located three new yards this season, the plan pursued in each case being much the same. One of his locations was picked out two or three years ago, but was not secured until last winter. It is in the midst of a twenty-acre basswood orchard.

West Groton, N. Y.

SUPPORTING FOUNDATION.

USE OF LITTLE SQUARE STICKS INSTEAD OF WIRE.

By Dr. C. C. Miller

I am sending you a frame of brood-comb as a sample of those I am having filled out nowadays. You may remember that I had on hand the problem of getting frames filled without having any space left between the comb and bottom-bar. This I accomplished by filling the frame full of foundation, then cutting out a strip half an inch or more in width at a distance of an inch or so above the bottom-bar, all but an inch or so at each end which was left uncut. Two points were accomplished by this, aside from the one of getting the comb built clear down to the bottom-bar: Cutting out the strip made room for the foundation to sag, and it left the depth for sagging a good deal less.

But some of the combs showed more or less bagging at about the place where the strip was cut out. Cutting out a wider strip didn't mend the matter, and I concluded it was the sagging of the foundation below the cut before the bees had built the upper part down to join the lower. The lower wire, which held up the lower part of the foundation, was not tense enough to hold the foundation rigidly in place.

This year, as soon as I could get the time for it, I tried various plans to overcome the difficulty. I had pretty good success by cutting out the strip only half or three-quarters of an inch above the bottom-bar, and I found it a help to take the strip that was cut out and add it to the foundation next to the bottom-bar, thus making the foundation double at that part. With a good yield of honey, such frames will be filled out satisfactorily.

Continuing my efforts to obtain the same end with less time and trouble, I finally struck on the plan of having little sticks cut out of separators to support the foundation, the sticks running from top to bottom. The foundation was generally fastened promptly to the sticks, and the foundation drawn out nicely on the opposite side, making a beautiful level surface on that side; but the bees were slow about building the foundation over the sticks, and in some cases commenced to gnaw down the sticks, or else to gnaw the foundation away from the sticks.

I then took thin strips of foundation to cover the sticks. That succeeded; and although a good deal of trouble, as the trouble would come only once in my lifetime I felt I might afford it for the sake of having combs entirely satisfactory. I tried coating the sticks by dipping them into melted beeswax after the old-fashioned way of dipping candles, or using the dipping-board in making foundation. But this did not work so well.

The sticks had to be pressed into the surface of the foundation, and this could easily be done by having the foundation warm and soft. Trying it on a cool day, I thought it would be easier to leave the foundation cold and heat the sticks. It was troublesome to make the sticks hot enough without burning them; and I found, when they were a little burned, the bees were more inclined to gnaw them down. It wouldn't do to heat the sticks in boiling water, but it might do to dip them in hot wax. I tried it, and the moisture in the sticks at once made the wax a foamy mass. But very soon the moisture was all boiled out, and then I found the hot waxy sticks were easily bedded into the foundation. For some reason I tried some of these without covering with the strip of foundation. Eureka! Instead of trying to gnaw out these wax-boiled sticks, the bees commenced at once to build upon their surface, there seeming to be enough wax on them for this purpose.

Just now, Sep. 1 little honey is coming in;

but by feeding I am getting a number of frames filled like the one I send you. This morning I saw one about as much drawn out upon which the bees had been at work less than 48 hours. So it will take only 48 hours to see whether bees in Medina will work the same way. Take sticks $\frac{3}{8}$ inch shorter than the distance between top and bottom bar—the hot wax will swell them in length—and $\frac{1}{8}$ inch square; let them be in the hot wax till the wax becomes clear; with a pair of nippers drop one on the middle of the foundation, pressing it in, then two on each side about $2\frac{1}{2}$ inches apart, making 5 sticks in all, leaving a space of more than 3 in. between the outside sticks and the end-bars. With one person to lay the sticks on, and another to press them in, the work will be done in a good deal less time than the same two persons could wire the frames and imbed the wire, so it's a saving of time. The expense is more, the sticks costing a cent for each frame; but I suppose they would cost less if a large number were made. The great point about it is that the frame is entirely filled with straight comb, with no space between comb and bottom-bar. I suspect the sticks may trouble the queen about laying, although all the cells are filled with honey just as though no sticks were present.

Marengo, Ill.

[The comb the doctor sent was very nicely built out down to the bottom-bar, and the bees have apparently accepted the sticks. But I note that there has been an effort on their part to make the sticks, as far as they could, come to the sides of the cells rather than directly through the middle, irrespective of the way the sticks lie on the foundation. I am free to confess that at first I did not take kindly to this plan of staying up foundation, particularly because I thought the queen would object to the sticks, and, moreover, that, even if the queen did lay along the line of the sticks, I was afraid that the brood would not develop and be capped over normally. In talking with the doctor at the convention in Lincoln I was assured that the queen not only laid in those cells, but that brood-rearing went on over those sticks. Said the doctor:

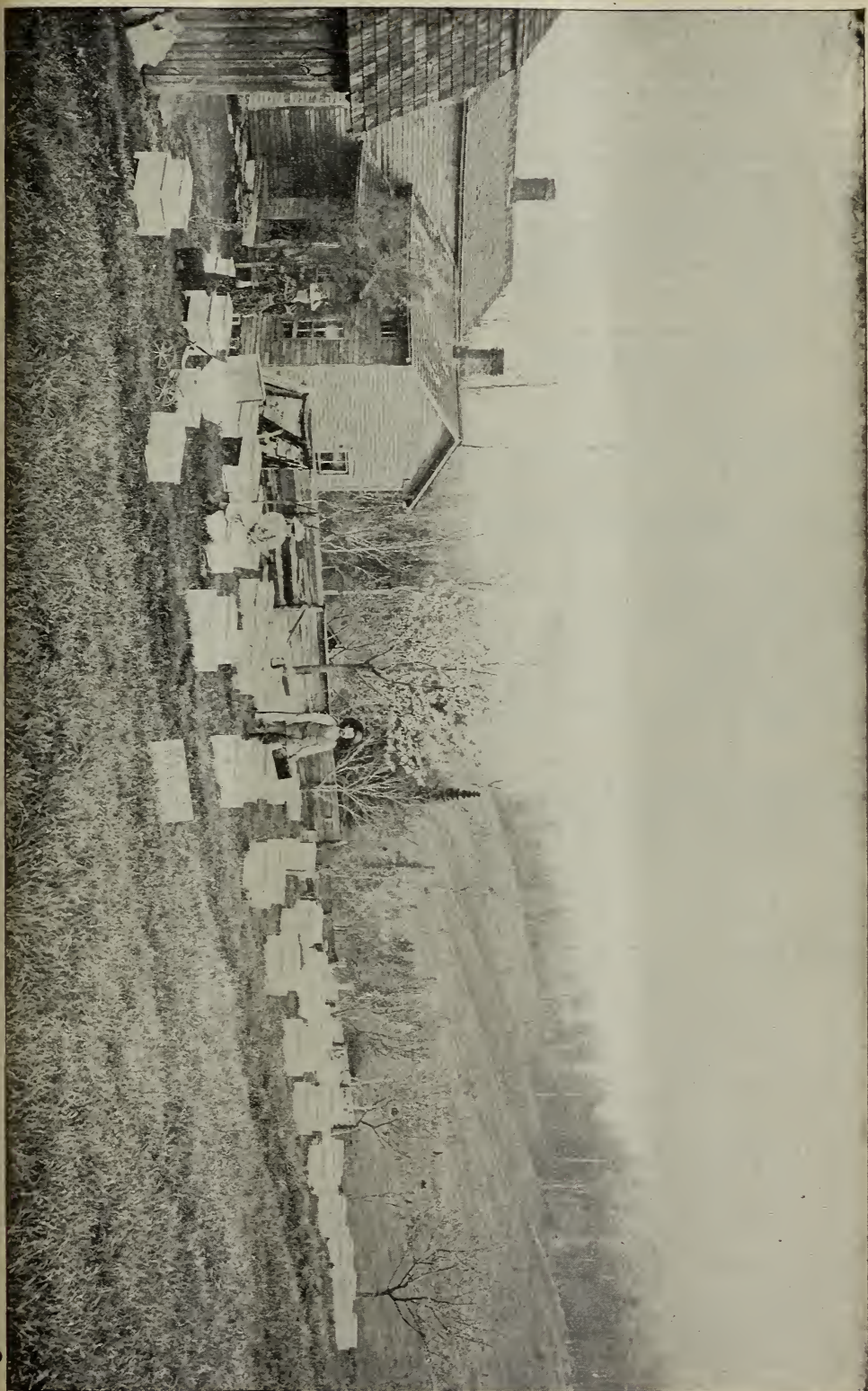
"I believe this is one of the best ideas I ever hit upon, and I want you to look into it a little more. You see," he continued, "that it saves the time of wiring, and I can put the sticks on the foundation as fast as I can wire the frames."

"Yes, I know," I replied, "that it saves the time of wiring the frames, and that the sticks will be cheaper than the wires; but while you are about it, why not use broom-splints?"

"I had not thought of that," said the doctor. "I will try them."

It is possible that the splints would be strong enough; but at all events the doctor urged me to see if we could not get the Weed machinery to incorporate the sticks or broom-splints in the foundation itself. I have laid the matter before Mr. Weed, the inventor of the new-process foundation, and will see what can be done.

There is this to be said in favor of the wires, that they hold the comb securely to the frame irrespective of any fastening of the bees; and where frames of foundation have to be shipped or hauled to out-yards this is quite important. As I understand it the splints of the doctor's merely prevent sagging.—Ed.]



ATLANTIC OF H. A. TORREY, CATON, N. Y.

R. A. TOBEY'S APIARY AND FAMILY.

The picture shows my whole family. The cat is in the girl's arms; the corner of the building at the left is my shop; honey-room in further end not shown. The woods back of the house are a swamp. The woods at the right are sugar-bushes. The fence between bees and house is a windbreak, with two panels taken down. Near the carriage is the solar extractor. On top of the Dovetailed hive near the lady is the bird-dog—a useful animal to me, as I take the birds on the wing. The top of the picture is north.

R. A. TOBEY.

Caton, N. Y.

REPORT FROM GERMANY.

By C. J. H. Gravenhorst.

In Germany the bees came through the past winter in very good condition. They wintered well, not only in such hives as experienced bee-keepers think best for wintering, but also in all others, even by the most careless management. The winter of 1895 was not severe, but such a one as, in other years, the bees came through with more or less losses. How did this occur? I think it was because the season of 1895 was a very good one throughout Germany. The bees had not only much honey, but this honey was first rate as food for wintering bees. Though I am of the opinion that a good sheltering hive, also that the right management (something out of the slipshod way) has something to do with the wintering of bees, I nevertheless set the greatest value upon well-capped and sufficient provisions, being careful not to disturb the colonies in any way by uniting, unqueening, etc., before they are put into their winter quarters. In more than one case I have observed that strong colonies with sufficient good honey and prolific queens will stand a severe winter, even in bad hives and on their summer stands; at least, it is so in Germany.

The German bee-keepers were full of hope after the last winter had passed, and every one of them dreamed of excellent returns in the near future; but, alas! by the quick turns of good and bad weather in April and May, many a colony lost more bees than developed; and then, as Dr. C. C. Miller says, "Every thing seems in a hurry this year." So it happened that the colonies of most of the German bee-keepers were not in working order, as the blossoms yielded more or less honey, or the bees got the swarming fever at the wrong time, if the bee-keeper did not interfere. This, and the fact that many of the blossoms did not yield as much honey as in the year before, is the reason that the honey crop failed in most sections of our country—especially where the honey harvest is over in the middle of July.

Bee-keepers who live in those sections of our

country where the *Erica vulgaris* (heath) is abundant, or those who move their bees to the large heath-plains in North Germany, may get a good honey harvest; for, at the time I write this, the prospects are very good. The first part of August I carried all my bees to the heath after I had extracted all the honey they could spare. I have already had a good honey harvest, and it would have been somewhat better, like the one the year before, if every thing had not been in such a hurry. But I am satisfied with the result, and hope to be more so if the *Erica vulgaris* does not miss the mark.

After the winter had passed, my bees were in excellent condition. Later, as some of my colonies, on account of the unfavorable weather, did not thrive as I expected, I gave the weaker ones bees and frames of brood from those that could spare both, and made all my colonies equal as to bees, combs, and honey. Such an equalization I never forget in the spring, if it lies in my power to get the first swarms at a fixed time, say within eight to twelve days. The second swarms will come in due time if I prefer to have such. All this saved me much time, otherwise the strongest colonies would swarm in May and others in July. All the time from the middle of May to the end of July I should have to attend to swarming.

How do I manage my bees so I may have all my first swarms within eight or twelve days? Let me explain that. My best colonies, which, after the winter is gone, occupy nine or more frames in my hives, containing sixteen frames abreast, I encourage after their first general cleansing flight, say at the close of March or in April, according to the progress of vegetation, by feeding or uncapping some patches of their stores. This I do toward evening, when I expect a good sunny day and not a rainy one; otherwise I might feed too many bees out of the hives, which very likely would fail to return to their home. If I think it best to strengthen a weak colony at first with bees only, then I take a large feeder with food and give it to a very populous colony toward evening. If the bees then cover the feeder thickly, I take it with all the bees and give it to a weaker colony when night sets in. The bees will stay here, as many of them are young ones. I repeat this as often as I need bees, and as I have them. I never set a populous colony in the place of a weaker one to strengthen the latter, because the queens of both of the colonies may be lost. Later I take combs of brood from the best colonies, and give them the weaker ones, but never more than the bees will cover. I never take more bees or combs of brood from a colony than it can spare, but so much as is necessary to avoid swarming before the fixed time. Should there be weaker colonies in my apiary than I have bees or combs of brood to assist them, then I unite some one of them or let them alone. If some of them are

so strong that their bees would swarm, then I brush one or two colonies on starters into a hive and give the brood-combs to others, to bring these to the swarming-point.

Now comes the swarming time, according to the weather, the progress of the vegetation, and the condition of the colonies. All the swarms which come forth as natural ones are welcome; and those which issue involuntarily I make artificial. If an artificial swarm is made in the right way, say as a true copy of a natural one, then it is by no means inferior to a natural swarm; yea, I prefer such a one as occasion may arise. I have had seasons where I did not get one natural swarm at the time I wished, so that I was forced to make them artificial. If I did not do this I should not have had the greatest yield of honey, because the colonies would have swarmed too soon.

Here I must say that I do not manage my bees so as to get a swarm from every colony in my apiaries. Some of the colonies I keep from swarming. These are, as I name them, "die Honigstocke"—colonies which are designed only to gather honey. I keep them in working order from spring to autumn. Sometimes in the season we have here an unexpected and sudden honey-flow and in such cases they will gather some surplus honey, be that at home or in the neighborhood after I have taken them there.

Thus my method is adapted only to the honey-flow of that part of my country where the bees before the middle of June, in most years, live only from hand to mouth, where all the gathered honey will be consumed by brood-rearing and building some combs. They would not have any more honey if I prevented them from building combs. That may sound paradoxical, but it is so. My experience has taught me that comb-building under such circumstances is a mere bywork; therefore I give all my early swarms only starters, and, according to their size, five, six, or more frames. These few frames are, by the by, soon filled with natural combs of only worker-cells, and are better and cheaper than such frames of comb foundation would be. As soon as these combs are nearly finished I make the utmost use of comb foundation, to have the brood-room full of combs. The honey-room is then to be filled with frames of full combs.

I must say here that I work my bees only for extracted honey, because I have not a market for comb honey—at least, it sells in Germany for not a bit more than the extracted article.

All the colonies from which I got a swarm will rear queens, and most of them will give a second swarm in due time. I let them swarm; and while the swarm clusters on the tree I transfer the mother colony to a clean hive, shake the bees, comb after comb, into it, cut out every queen-cell, arrange the combs the

best I can for the brood-nest; then I bring the issued swarm (or, better still, an after-swarm) from another colony, and bring it on the comb in the prepared hive. There are one or more queens in an after-swarm; but the bees will soon select one of them, and the other will be killed. As soon as this is accomplished the colony will take up its work with the energy of a swarm; and as honey is coming in, and the hives are full of bees and combs, the colony works to my heart's content. If I were to cut out all queen-cells before swarming, and let some remain in the mother colony, in many cases it will swarm with the only one queen; and if not, I know by experience that such a colony, before its queen has deposited eggs in the cells, does not work in the field with such energy as do those which have a queen with an after-swarm. The queens of after-swarms will, on an average, get fertile sooner than queens from cells one may select by the cut-out process.

As I keep my bees according to the peculiarities of the region I inhabit, and the construction of my hive, my method will not be convenient for every one. Where there is a main flow of honey earlier than in my region, there would be an equalization of the colonies in the spring—a fault. Here one has to let the weaker colonies alone, and strengthen the best, to have them in working order at the right time. Swarming of the bees is then a fault only when it counteracts our designs for getting surplus honey.

This season, when I got the first swarm on the 28th of May, I have not had the full benefit of the honey-flow because "every thing was in a hurry." The blossoms of corn-flowers, acacias, lindens, etc., opened 10 or 12 days earlier than other years, contrary to my calculations. Nevertheless, I have had a good honey crop, and that not only by good management of my bees, but by moving with them. The right management of the bees, according to the region one lives in, does very much to gain a good honey crop; but where there is no honey in the blossoms, the best-managed colonies will gather nothing. This I know very well, and therefore I am continually on the lookout to see where there is a good honey-flow in my neighborhood. Perhaps there may have been sown rape, clover, or other honey-producing plants which are just yielding honey, while at home there is little or nothing to gather for bees. A rain may there have developed the plants better. If I one day learn that somewhere within a radius of 8 miles is a better honey-flow than at home, then I prepare one or two cartloads of my bees on the same day, and on the following morning my bees gather honey at the new place.

The hive I use is well adapted to moving with bees, and easily got ready for it. I moved some of my colonies this season to a large field of

rape, to a plain of white clover, and in the beginning of August all of them to the *Erica vulgaris*, so that my bees at the close of the season have gathered honey on four places. Thus my migratory system has helped me so that I have not had any bad honey season in several years.

Wilsnack, Germany.

SQUARE CANS—THE RELATIVE COST OF NEW AND OLD.

A SIMPLE HOME-MADE APPARATUS FOR DISTILLING WATER FOR DRINKING PURPOSES.

By S. S. Butler, M. D.

Mr. Root:—Some time ago I wrote you an article about cleaning empty oil-cans, and also about pure drinking-water. I do not take back one word that I said about cleaning well, free from rust, empty oil-cans for putting honey in. They are just as good as perfectly new cans, when *cleaned*, not partly cleaned, which can be perfectly done with unslacked lime in the way I spoke of in my article, Oct. 15, 1895. Here are a few figures:

In San Francisco, 2d and 3d quality of honey is quoted at from 2 to 3 cts. per lb.

120 lbs., at 2½	\$3 00
2 new cans and case	75
	\$2 25

After one has paid freight, drayage, and commission, how much would he have for his work? My cans cost 8 cts. each.

2 cans at 8	\$ 16
Case	5
Material for cleaning, 1 ct. each	2

The cost of a case, \$ 23

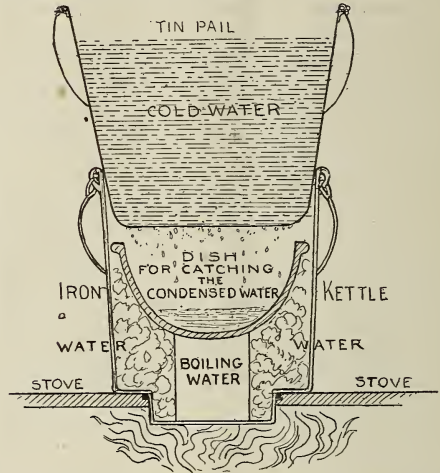
This is a clear 50 cts. saved on each case; and, Skylark to the contrary, the honey will bring just as much in my well-cleaned oil-cans as in new ones.

MARKETING HONEY.

□ Years ago I made up my mind that the best package to put extracted honey in was the Mason quart jar. As they represent so much cash, if one does not want to put up fruit or jelly in them they are always worth so much money. When I commenced producing extracted honey here in 1876 I got 12 to 15 cts. per lb. for it. The price gradually decreased until, when the hard times of 1893 struck us, I found that, if I wanted to sell my honey, 1st or 2d grade, I had to put the price so that it was not a luxury, but necessary—so low that it was nearly the price of syrup; so that now I keep in all the groceries of this place of 2000 inhabitants quart Mason jars of 2d grade, with a neat label on, which they retail at 20 cts.: and I let the stores have them for 18 cts., and take it in trade. I know that I do not buy any thing these hard times unless I need it and it is cheap, so it is with others. We must reduce the price or keep our honey.

DISTILLED WATER.

We should purify the water we use, outside not *inside* the body. Here is a description of my "distillery," which has been in use for nearly 23 years on our stove. Our spring comes out of a limestone ledge, and the water contains a saturated solution, or all that it can hold, of carbonate of lime; and so much collects in the kettle that it needs cleaning very often, and the whole apparatus had to be made so it could be easily taken apart.



The apparatus consists of an iron kettle, not pot, with sides straight at a certain angle; a seamless tin pail, a little more flaring, of such size that it will sit about 3 inches in the kettle, and fit snug all around, so the steam does not escape. I next found a round earthen dish, with scalloped edges, a little smaller than the middle of the kettle, which rests on a tin can. We put water into the kettle up to the bottom of the dish, which holds more than the dish will hold (when it has steamed up against the pail with cold water in it). Into this the water drops from the condensed steam.

As I said in my other article, I am satisfied that pure water is one of the hardest things to find in this world. When converted into steam, and that condensed, we have pure water. With my apparatus, whenever we have a fire it is collecting pure water for us, which we dip into a gallon jar.

Los Gatos, Cal., Aug. 8.

BAKED APPLES AND HONEY.

Here is a recipe my wife gives to the lady readers of GLEANINGS: Take ripe apples of uniform size, and with a knife remove the core by boring in at one end, but do not run the knife clear through. Place them in a baking-dish and put into each apple a teaspoonful each of honey and butter, and bake in a moderate oven. I thought they were the finest thing I ever ate.

Carpenter, Ill.

EDW. SMITH.



ITALIAN BEES.

Question.—I am a beginner in bee-keeping, and have taken GLEANINGS this year. I am much interested in your department, as you make things so plain. I see much about Italian bees, and Carniolan bees mentioned once or twice; also something about foul brood. Will you be kind enough to tell us through GLEANINGS something about the bees named, and briefly what foul brood is, how to detect it, and how it is cured? I keep only black bees.

Answer.—The Italian bee belongs to one of the yellow varieties, to which also belong the Cyprian and Syrian. The Italians are very quiet and gentle, while the other two varieties named are comparatively cross and vindictive. Italians were imported into this country about 1860, while the other two were not brought to our shores till about 1880. So far, nearly all apiarists agree in placing the Italian bee at the head of all others, both as to ease of manipulation, beauty, and honey-gathering qualities. As comb-builders they are not quite as good as the black or German bees, which you say you have; neither do they use as much wax in capping their surplus honey, which gives the surplus product a little inferior appearance, or what is termed a "watery look." They cling very tenaciously to their combs, while the black bees often fall off when the combs are being manipulated, or run about in a frightened way. This tendency in the Italian bee makes the handling of the hives and combs very pleasant; but when we wish to get them off the combs for extracting the honey, or for any other purpose, it requires more work. However, the main point of superiority of the Italian bee is its honey-gathering qualities. If there is any honey to be had they are away to the fields after it, and will toil incessantly all day for a very little, while the black bees often do not work at all unless honey can be gathered quite freely. Italian bees will labor faithfully all day long for only "pennies," while the German bee must have "dollars," or it doesn't propose to work at all. To illustrate:

About the time I first procured the Italian bee I had fifteen colonies of blacks and three of the Italians. As an experiment a fourteen-quart pail of maple sap was placed in shallow dishes, after adding a pound or so of sugar, so as to make a very thin sweet. With honey the bees were started to work near this sap; and as long as the honey lasted they came in about the proportion named above—fifteen of the dark and three of the yellow. As soon as the honey was gone they took to the sap; but soon the black bees began to stop coming, so that in an

hour scarcely any but Italian bees were carrying the thin sweet. These bees worked till they carried all the sap home, while the black bees thought it not worthy of their notice.

CARNIOLAN BEES.

Carniolan bees are natives of Carniola, and were imported into this country mainly through Mr. Frank Benton, now of Washington, D. C., but then of Munich, Germany. There seems to be a difference of opinion regarding these bees, some extolling them very highly as comb-builders and honey-gatherers, while many more have no words of favor for them. Some years ago I obtained a Carniolan queen, and, from careful experiments, comparisons, and inspections, I could not think otherwise than that they were a peaceable strain of the German bee. I then got rid of them, as there were several traits about them I did not like, the two main ones being that they were bound to swarm all through the honey-harvest, while the most of the honey gathered by them was consumed in brood-rearing, so they gave little surplus, and were universally short of stores for winter. Later on, I was led to think that I did not have the genuine Carniolans, so procured other stock from parties supposed to have the simon-pure article, if there was such a thing. But these last proved to be little if any different from the first; and after a careful test of the same, which gave no different results, I did away with them again, since which I have let them severely alone. They are said to be of a steel-blue color; but close observation failed to find them of such color farther than the black bee shows it. I wish I could give a more favorable report of these bees; but when I say any thing about tests which I have made, all I can do is to tell the same just as I found it to be. To do otherwise would be to be untrue to myself and untrue to those who read what I write.

FOUL BROOD.

Probably there is no one thing in bee-keeping that has had more care and study given it by apiarists than foul brood, and probably no study which has given as little satisfaction, for we are but little nearer a solution of the true cause of the disease than we were when Quinby wrote about it in the early sixties. When a colony has this dread disease, a few of the larvæ die soon after the bees seal them over. The capping to the cell soon has a sunken appearance, quite often with a pin-hole in the center, though not always so, as some claim. Upon opening the cell the larva is found stretched at full length in the cell, having a brown appearance, while all healthy larvæ or pupæ are white. If touched, this dead brood is of a salvy, soapy nature, and gives off an offensive smell. From the first few cells the disease spreads rapidly till the combs become a putrifying mass, generally during the first season, and nearly always during the second, the

stench at this stage often being smelled a rod or two from the hive. A few of the larvæ mature into bees, and the population of the hive decreases till they become a prey to robbers, when the honey is taken off by these robber-bees, only to carry the seeds of the malady to the robber's hive, for the disease is spread through the honey as well as from any thing coming in contact with it. The cure is to drive out all the bees from the affected hive and keep them shut up in an empty box until they are nearly starved, so that they shall have digested all of the diseased honey. They can now be hived in a new hive containing comb or comb foundation, without carrying the disease with them. If they are to be hived in an empty hive, this starving process has been proved unnecessary, as the diseased honey is all used up in comb-building before any larvæ are hatched to which it can be fed. Great care should be taken that no bees get at the contents of the old hive before the combs are rendered into wax, and the honey and hive scalded. Other cures have been recommended, but most of them are ineffectual, except in the hands of an expert.

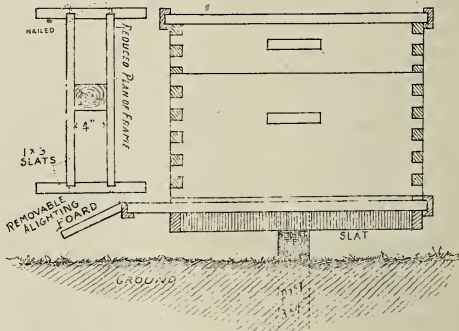
PICKLED BROOD AND FOAMY HONEY.

Last Saturday I went through my bees to see what amount of feeding they needed for winter. I found brood, and also what I thought was foul brood. I then got six copies of *GLEANINGS* to look for a cure. I found an article on page 609 and page 683. I was convinced the disease was the same. I found three of the symptoms of foul brood lacking: 1. The cappings were not sunken; 2. The brood was not ropy; 3. The brood was not dark. The writer on page 683 thinks the trouble is caused by foamy honey. I think the same. After the honey season was over I had some sections unfinished, and took them off, for the weather was very hot and bees very strong. I thought I would put the sections on again to give them room, and let them take out the honey. I noticed the honey was foamy, and I believe it was the cause of the diseased brood. I felt a great deal better when I found it was not foul brood, although it is bad enough as it is. I hope it will not get any worse. I had trouble enough last summer with swarming after the honey season was over. It was an every-day thing to have a swarm.

W. L. RICHMOND.

Lexington, Ky., Sept. 23, 1896.

WARE'S HIVE-STAND.



Mr. Root:—The above cut represents one of your make of hives that I am now using. You will please notice that it is resting on a slot frame, fastened to a post 3x4 inches square, put in the ground, allowing the hive to be about 6 in. from the ground. I have 8 hives, and I wish to fix them so I may keep the grass cut short under and around them. Now, will you please be kind enough and tell me whether there is any objection to having the hives put up on a post as in the above sketch? If you will kindly give me the information I desire I will consider it a favor.

W. F. WARE.

Bridgeton, N. J., Aug. 12.

[Your stand is good, especially as it will allow the lawn-mower close up around and under the hive. It would cost a little more than the ordinary stands that rest on the ground. During a heavy honey-flow some of the bees would drop just in front of the entrance. They would



THE FATAL STINGING OF A HORSE.

Mr. Root:—On page 680 you ask, "Will bees kill a horse?" This can be answered in the affirmative by myself and son. The time was March, this year. The best animal of three was staked out, or picketed, about a quarter of a mile from the apiary. We were busy making foundation, and did not look after the animal till noon. The bees were after her, then she was so crazed that it was with great difficulty we got her away from the bees, and they away from her. My son received a severe kick which came near breaking a leg. In two hours from time of rescue the mare was dead.

Tulare, Cal.

J. F. BOLDON.

FURNITURE-NAILS AS FRAME-SPACERS.

Dr. Miller has discussed spacing by means of small nails. Seven or eight years ago I used a conical porcelain or brass-headed cabinet-maker's nail, or tack, which I regarded as a very excellent device for the purpose intended. They were driven into the frame at alternate ends. They were used in hives made by myself out of shoe-boxes, having frames 10x10 inches, and used in the extractor. I found they interfered but little in the use of the uncapping-knife, as it would glance off the conical point without dulling, and never became entangled in the wire of the extractor.

J. B. ENOS.

Charleroi, Pa., Sept. 30.

be obliged to take wing. But this would be no great drawback if the grubs were always kept kept down.—ED.]

A cement made of four parts of rosin, one of beeswax, and one of brickdust, melted together, will fasten the handles of knives, forks, and similar tools which may have become loosened.
Cleveland, O. R. V. MURRAY.



As the copy for "Straws" in this issue arrived during my absence at Lincoln, the usual footnotes do not appear.

THE Lincoln convention, considering the times, was a success in every way. As we had reason to expect, the Nebraska bee-keepers have set a "terrific pace" in the way of large-hearted hospitality. Great credit for the success of the convention is due to Messrs. Stilson, Whitcomb, and Heath—the latter of the *Nebraska Farmer*. A. I. R. having arrived home sooner than I, by two days, has prepared a general report of the whole convention, and the same appears on page 762. Some features of it will be taken up by myself more specifically in our next issue.

MAKING SYRUP FOR FEEDING.

You will remember last season we made all our syrup for feeding, by the cold process *a la Salisbury*; viz., by pouring 3 parts of sugar and one part of water into an extractor-can, and turning the reel vigorously for some two or three minutes. After it stands for half an hour it is ready to draw off—a perfectly limpid syrup. Well, such syrup last year wintered our 200 colonies as nicely as any syrup made by the use of heat. It is needless to say that we are using the same method this fall. The syrup is made right out in the apiary, where we are to use it. It is drawn off into feeder-cans, and poured into feeders. As to feeders, the Boardman is the one that we are using this year. It feeds slowly, and one can tell at a glance how fast the syrup is taken up.

EMPTY COMBS IN GLUCOSE.

SOME time ago I referred to the fact that we had an inquiry for drawn-out empty comb. The nature of this request, and line of business (syrups, honey-drips, wax, etc.), made it evident that the comb was desired to put up in jelly-tumblers of glucose—the comb to give it an appearance of honesty. Within a few days we have received another such request. This is the way it reads:

Gentlemen:—Please send us samples and quotations of imitation honey-comb. We want some-

thing that will do to put in glass packages of strained honey, so that it will look like a small piece of honey in the comb was in the package."

Italics mine. I am at present looking up this firm. While the letter is not strictly grammatical, it seems very evident that glucose and dried comb was what they intended to palm off as pure honey.

The way the honey-sharks are operating, and the glucose-mixers are palming off their goods as honey, shows that the Bee-keepers' Union ought to be taking hold of these chaps instead of frittering away its time on the defense matter, now a dead issue. Chicago, its home office, is the place to begin work.

THE STRONG ARM OF THE LAW.

IN our last issue I had something to say regarding the firm of Geo. T. Wheadon & Co., 198 South Water St., Chicago. You will remember that this is the commission house which represented that they were the largest honey-buyers in the West, and talked glibly about their "bank references" and "commercial rating." Some rather startling information appears in the *Chicago Tribune* of September 26. It would appear from the subjoined that the "master mind" of Geo. T. Wheadon & Co. and other firms is this same A. S. Terrill. It will speak for itself:

ON A. S. TERRILL'S TRAIL.

EVIDENCE OF PECULIAR COMMISSION TRANSACTIONS IN HAND.

DETECTIVE EDDY SAYS HE IS PREPARED TO INSTITUTE COURT PROCEEDINGS WHICH WILL RESULT IN CONVICTION OF FRAUDULENT DEALINGS—NAMES OF FIRMS WHICH HAVE RECEIVED ASSIGNMENTS AND THEN DISAPPEARED—LIST OF VICTIMS SAID TO BE LARGE.

Detective E. B. Eddy says he has in hand sufficient evidence to convict A. S. Terrill, who has a record in South Water Street commission circles, of fraudulent dealings.

The United States Express Company recently took up the case of Terrill, whose career has been referred to frequently in the *Tribune*, and put Detective Eddy at work to unravel the complicated situation of affairs which is said to have cost farmers of the West thousands of dollars in the last few years. Mr. Eddy says he will institute proceedings in court at once.

A. S. Terrill has been known as the head of half a dozen concerns which were held in bad odor by South Water Street merchants. The different firms which he organized, it is said, sent agents throughout the country to solicit shipments of produce. As an inducement, prices were offered a few cents above the market, and all kinds of favorable conditions were pictured. When the shipments were handled the consignee often failed to receive his money, it is said; and when he came to Chicago to see about it, he would have all kinds of trouble in locating the responsible parties.

These different concerns were broken up time and again, but only to appear under new names, and repeat the tricks of the former firm.

The master mind behind the scenes was said to have been Terrill. The headquarters were at No. 198 South Water Street, with an office for Terrill himself in the Unity Building. At different times the business was conducted under the firm names of Terrill Bros., Klinger, Helm & Co., Lawrence Produce Co., E. V. McConkey & Co., W. B. Paine, and George T. Wheadon.

The law offices of the city are full of complaints and unpaid bills which A. S. and W. V. Terrill and McConkey are to be asked to account for.

Mr. Eddy's office was visited by a large number of victims and their representatives yesterday, and he has a large number of claims which he is preparing to collect if possible. The following are on the list of those who have lost money.

C. A. Dare, Chesterville, Ill.	\$640
J. A. Kemp, Grocery Co., Wichita Falls, Tex.	500
L. Malmstadt, Gillette, Wis.	240
P. R. Sanders, Brooken, I. T.	26
C. C. Trowell, Bradish, Neb.	108
W. G. Brookes & Co., Colono, Iowa.	118
Jules Worst, Lebanon, S. D.	16
H. Grab & Marvis, Marion, Wis.	40
Childs & Coulter, Kasbur, Ill.	176
J. S. Hall, Box Elder, Texas.	121
Cooperative Creamery Co., Hollendale, Wis.	36
J. W. Molone, Bridgeport, Tex.	29
W. H. Coursey, Louisville, Ky.	20
John Voca, Wesley, Tex.	56
W. M. Koonce, Boyd, Tex.	26

There are hundreds of these complaints which have been accumulating for several years, and as many as possible of them will be brought forward. One of the first results of the hunt by Eddy for the head of the concerns was a personal encounter with Terrill, in which the latter, it is said, threatened to kill the detective.

PARAFFINE VERSUS BEESWAX.*

THE new Weed-process machinery for sheeting wax has enabled us to compete for the dental trade. In making artificial teeth, dentists use sheets of wax about $\frac{1}{16}$ inch thick by $\frac{5}{8}$ inches long by $2\frac{1}{2}$ wide. These sometimes are pure beeswax, and sometimes contain a portion of paraffine. Of course, the former is sold at a higher price. We have been supplying some wholesale dental houses with both articles. One thing that surprised us greatly is that the new Weed machine will not handle satisfactorily a mixture of paraffine and beeswax. For the foundation business this is of no importance, because we can't use and don't want adulterated foundation, but in the manufacture of dental wax it was somewhat of a disappointment.

We have never handled paraffine before in our experience, except some 20 years ago, when we tried a few pounds of beeswax and paraffine foundation. The result was that the comb built from the foundation "caved in" on hot days, and we had damages to pay. It is sufficient to state that paraffine in any mixture for bee-hives was condemned by A. I. R., and has been looked on with suspicion ever since by the junior members of the firm. But the dental trade calls for paraffine mixtures, and, if I am correct, the wholesalers of dental goods sell it for just what it is, and therefore it is a legitimate article of manufacture.

In our experiments in making dental wax, we have been impressed more and more with the great superiority of beeswax over any other wax known. The product from the hive is less affected by varying temperature, is much more ductile, and will stand greater strains. Paraffine and its mixtures, on the other hand, have a disagreeable fashion of crumbling up. If the atmosphere is a little cool, thin sheets will almost snap into pieces. If it is a little warm, like a hot day, it will fairly tumble all over itself. These qualities in dental work may pos-

sibly make them desirable; but I am very certain (more so than I have ever been before) that pure beeswax is the *only* article in the way of foundation that ought to be put into a bee-hive.

PARAFFINE SURFACES IN BEE-HIVES; DANZENBAKER HIVE AND SYSTEM.

MR. FRANCIS DANZENBAKER, of Washington, D. C., the one who called our attention to the dovetailed hive corner, and the one who invented the Danzenbaker hive and system, is with us again for a few days. He is a strong advocate of closed-end frames, tall sections, 4x5, such sections being notched at the corners, as was illustrated in GLEANINGS some time last spring. When he came here a couple of years ago he advocated the use of paraffine paper, the same crowded down close upon the tops of the sections. Bees disliked paraffine he said; and the paper being impervious to the action of moisture or air, it retained the warmth of the brood-nest; and as its surface was paraffined, the bees were not inclined to deposit propolis to it.*

Indeed, he exhibited sections that were shown at the Michigan State Fair, and won first prize, that had *not been scraped at all*, so perfectly had the paraffined paper done its work. His plan of using the paper is to lay the sheet on top of the sections, and then over it a quilt or folds of other paper and over all the hive cover. This, he explains, makes a super tight and warm; and as the surface of the paper is a little greasy, the bees are not inclined to deposit propolis against it.

He has used paraffined paper for separators, but has abandoned the paper for that purpose, and is experimenting with wood coated with paraffine instead.

Mr. Geo. E. Hilton, a bee-keeper whose opinion I value highly, I understand is going to use the paraffine on all his supers another season, particularly because it saves so much time in scraping the sections. The use of paraffined paper as above specified has been incorporated, I understand, in a patent.

As the years go by I feel sure that Mr. Danzenbaker will be accorded the honor of giving the bee-keeping world a number of valuable ideas and inventions. He is an enthusiast upon the subject of hive-construction, and has been studying that matter, and carefully testing various hives for a period of twenty years or more, and he now feels that he has finally reached the *ne plus ultra* in bee-hives. He has succeeded in devising and combining very many valuable features in his hive; and we like it so well that we have arranged with Mr. Danzen-

*Propolis is gathered to seal the super air-tight. If this is done for them with paraffine paper Mr. D. says the bees begin work at once in the supers, which is not the case when they are not tight. Then the bees have to stop to gather and chink in propolis.

baker to supply it to our trade along with our other hives.

POISONOUS HONEY; THE UNITED STATES DEPARTMENT OF AGRICULTURE INVESTIGATING THE SUBJECT.

On the 17th of last month we received an inquiry from the U. S. Department of Agriculture, Division of Botany, asking for information regarding cases of alleged poisoning from honey, and desiring to know particularly whether we had any thing more to offer in regard to the cases mentioned in GLEANINGS for July and August, 1885. We replied that we could give no new light regarding them, but added that very recently Prof. Cook, of Pomona College, Claremont, Cal., in a recent article in the *American Bee Journal*, took the ground that there was no poisonous honey from any plant, and that since then communications had come in, both to the *American Bee Journal*, GLEANINGS, and to the *Southland Queen*, producing evidence that in some cases at least persons had been poisoned; and, moreover, that in our own opinion there could be no doubt, judging by reports we had received, for several years back, that honey from poisonous plants is often dangerously poisonous. I am glad to know that the Department of Agriculture is investigating this subject, and hope that those of our readers who may be in possession of any information on the subject will write to V. K. Chesnut, assistant of the Division of Botany in the Department of Agriculture, Washington, D. C.

In the mean time I desire to call attention to a valuable article from the pen of Dr. W. M. Stell, of Jesus Maria, Mexico, in the *Southland Queen*, giving the result of some of his personal investigations. The mountain laurel grows profusely in his vicinity, and he has observed that goats eat of it ravenously: but that burros and mules will not touch it. Upon his asking a herder of the goats as to whether this mountain laurel was poisonous to the animals, the herder replied that it was not: that they often drove the goats to them. Upon asking the herder whether he had ever taken any inwardly himself, he replied that he had; but that it produced pain and vomiting.

To test the matter further, the doctor made a tincture of the leaves and then mixed one ounce of this decoction with 8 ounces of diluted honey. This was fed to the bees; they took it readily, and stored it in the combs, apparently without any bad effects whatever. The next morning after feeding, with a small suction-dropper he extracted about 2 ounces of the mixture he had fed, and placed it in a glass graduate. Half an ounce was then eaten by himself, and the rest, an ounce and a half, by a Mexican boy, and this is what he says:

Now for the direct physiological effect on man and boy. About one-half hour after swallowing this honey I suddenly became giddy, with a slight

loss of sight; felt as if being whirled around. I immediately introduced my finger as far down the throat as possible, and vomited "sweet laurels" up, which relieved me instantly. The dose with the boy stayed with him all right for one hour.

I will state right here, dear reader, the Almighty being my helper, I will never try another experiment on any human again, and advise you all to do likewise. Just listen to these honey symptoms:

The boy fell with a violent convulsion; hard, contracted stomach, cold hands and feet, profuse perspiration, mouth tightly closed, eyes opened and rolled back, pupils dilated, face flushed, twitching of lower limbs, and great difficulty of breathing, pulse full, only 50 per minute, but strong. Being more than satisfied, and greatly alarmed with these symptoms, two one-tenth grains of apomorphia were administered hypodermically, in the left biceps, which promptly produced an emetic effect that relaxed all muscular contraction. After a good vomit he sat up, complaining of pain in the stomach and back of neck. Two ounces of castor-oil were administered, which operated in about two hours, bringing away a great deal of honey in the vomits also. The boy was quite broken up and unwell for a week, but is now bright as a dollar, as though nothing ever happened.

I hope, after this little experiment, those who are skeptical on laurel honey being poisonous, will only try a small bit on themselves, and know, personally, how it feels. I will assure you that a few of the above symptoms will convince and put you straight. Some may say, Why does it not produce such effects on the bee? Well, this I do not know, nor does any one else. It is true that, when the nectar is gathered from flowers, it undergoes a slight peculiar physiological change, that strains, refines, and reduces the amount of acid. This prevents fermentation, and conserves preservation, but does not alter its natural constituents: if it did, all honey would look and taste alike.

□ It seems to me it is a great deal safer to take the ground that honey from mountain laurel and like poisonous plants may be and probably is poisonous to human beings. Dr. Stell winds up his valuable article as follows:

I believe it is the honest duty of all bee-keepers to be more studious about the poisonous plants, and ascertain from which source the bees gather the honey. Jasmine, digitalis, oleander, nightshade, etc., are all dangerous and poisonous garden-plants which should be substituted by others more profitable and as beautiful. I hardly think bees will visit such poisonous plants unless compelled to do so by absence of all others, and during a sudden check in the honey-flow.

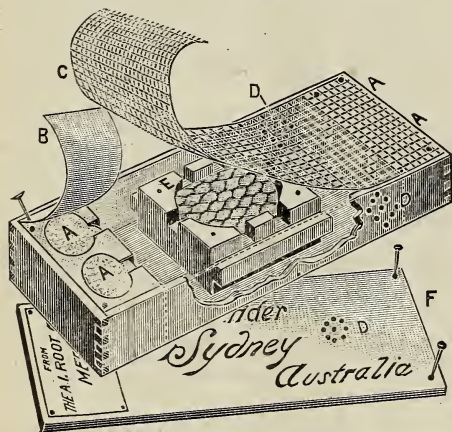
MAILING QUEENS ACROSS THE OCEAN PRACTICALLY A SUCCESS.

At last we are able to announce that queens can now be mailed safely from Italy to the United States. Until quite recently Italian queens came by *express* in little hives or shipping-boxes containing a couple of combs about 3 x 4 inches, and perhaps a couple of hundred bees. This made it necessary to get a shipment of not less than 50 in order to get out whole; for the express on a smaller number would be about the same. Besides the increased expense by express was the inconvenience of being obliged to make room in our apiary for 50 imported queens all in one day. Plan for it as best we could, it would disarrange to a considerable extent our queen-rearing operations. Now this nuisance is, I hope, all done away with, since queens can now come in lots of three or four by mail as fast as we need them.

For a couple of years back we have forwarded at various times our export cages, already provisioned, to our breeder in Italy, with in-

structions to put queens in and remail them to us. But the queens on arrival, if alive, were sickly-looking specimens, and it seemed as if mailing from Italy were a failure. Finally we observed that *we* could send queens in those same cages to foreign countries safely. Investigation showed that our queen-breeder in Italy put too many bees in the cages, so that the bees either suffocated or used all the food, and, as a consequence, starved.

About six weeks ago we prepared another set of Manum cages (the same as was illustrated on page 774 of GLEANINGS for Oct. 15, 1895), and sent six to one breeder and twelve to another, in Italy. The cages were prepared exactly as had been done before; but this time instructions were sent to put in not over thirty-five bees with the queen. A few days ago the first six arrived, every queen alive and in good order, and a few days later the remaining twelve came in equally good order. Mr. Spafford, our apiarist, reports that these queens appeared fresher and nicer than those that have heretofore come in the large cumbersome express packages.



THE MANUM CAGE.

As it may not be convenient to refer to the cut of the Manum cage above referred to, we reproduce it here.

The holes in the end contain the ordinary queen-cage candy; the center compartment, a bit of comb honey secured to its place by melted wax. The honey gives the bees the necessary water or liquid, so that the candy may be better assimilated. There is usually not sufficient honey in the ordinary Good candy to answer for long distances. Since using the little chunk of honey, our success in mailing to Australia has been much better. But one essential is in using the right number of bees.

BYRON WALKER; WILLOW-HERB HONEY; SELLING HONEY TO THE TRADE DIRECT.

We have just had a very pleasant call from Mr. Byron Walker, of Evart, Mich., but who is at the present time in Chicago marketing his crop of honey. Last year he was fortunate

enough during the dry season to secure 30,000 lbs. This year he has again produced the same amount, chiefly, as I understand, from basswood and willow-herb. The latter is a very fine and superior honey—first-class in every respect, and taking front rank right along by the side of the best clover.

One crop comes on comparatively early in the season, and another one from the same plant follows later. The earlier bloom comes from the growth of the previous season, and the second growth from the seeds of that season, on grounds that have been burned over. So far as I know, willow-herb grows only in certain parts of Michigan and Wisconsin. Its best growth seems to be over ground just previously devastated by fire.

Mr. Walker is one of those bee-keepers who secure a crop of honey *every season*. If there is no prospect of a yield in one locality he finds one where there is, and takes his bees there. He has practiced migratory bee-keeping extensively, and so successfully that I believe he has the reputation of securing the largest crops of honey of any bee-keeper in Michigan.

Not content with securing the largest crop of honey, he believes in getting the highest prices. In order to do this, after the honey season he goes to the markets himself with his honey, and personally sees to disposing of it to the trade direct. He rents space in the heart of Chicago, hires help, and puts his honey in large and small packages to suit the trade. With a horse and wagon he delivers it to the grocery trade.

At first he had difficulty in "breaking the ice." The grocers would show him "other stuff" they could buy cheaper; but by getting them to *taste* his honey he would convince them that his goods were *real honey* and worth more. He has no trouble in holding trade after he once "breaks the ice."

Mr. Walker called down at Medina while on a visit to see Dr. J. M. Lewis, of Cleveland. He has been a sort of invalid for a year or so back, and felt the need of something to build him up, and finally decided to go to Cleveland to take the treatment pure and simple. He has now begun, and I shall expect to hear, *if he sticks to it*, in a year or so, that he has become strong and robust, like the rest of us. Said I, "It is kind o' tough to be put on beef diet, and to be barred from the use of sweets of every kind, including honey, and still be in the honey business."

"That is true," said Mr. Walker, with a smile; "but, in spite of that, since Monday I have sold 8000 lbs. of honey;" and his visit here was made on Thursday and Friday. He had not sold any to us, and so he must have sold it all inside of two or three days.

THE PRESENT RULES OF GRADING.

Mr. Walker didn't like our rules of grading,

such as we have at the head of our Honey Column, a little bit. They draw the lines too fine. He at one time advertised to pay 25 cts. per pound for the "fancy," said honey to conform exactly to the requirements laid down. He never got a pound. The fact was, all of the grades were too strict over unimportant details. For instance, both the "fancy" and the "No. 1" specify that "both the wood and comb should be unsoiled by travel-stain or otherwise." If a section was perfect as to sealing, it was quite likely to have some discoloration, for the reason that perfect sealing implies delay on the hive in order that the bees might perfect the sealing. It is then that a slight discoloration is almost sure to be present. On the other hand, a section not up to the requirements as to capping might be free from discoloration. A slight discoloration, in his opinion, did not disqualify a section. The rules needed revising. He didn't believe that producers or commission men could or did conform to these rules.

I am quite willing to admit that there is truth in what Mr. Walker says, and I should like to hear from our readers.

THE NEW WEED FOUNDATION.

In talking about the matter of foundation, Mr. Walker was very enthusiastic in praise of the new Weed process, as it was so much tougher, and so much more readily worked by the bees. Indeed, medium brood of the new process was taking the place of the heavy brood of the old, in his yards, and in many cases he had not found it necessary to wire at all. As long as he can get the new process, he will not bother with the old dipped wax.

He was very much pleased with the new Cornell smoker. The malleable-iron legs and hinged top he considers as both very valuable features.

OUR HOMES.

Let your moderation be known to all men.—PHIL. 4:5.

I have been learning some lessons of late. You know how much I have made this matter of *health* a study and a subject of prayer. I have been continually asking God for wisdom, especially where there seems to be so much superstition and nonsense connected with this matter of sickness and disease. I have been asking, as you know, that God would open some way whereby I might partake of fruits and vegetables which have been provided by a kind Providence in such abundance during this past exceedingly fruitful season. You *know* I have not asked alone for self, nor simply because I wanted the pleasure myself of enjoying the beautiful apples, peaches, and other fruits. I have asked for wisdom that I might guide wisely those who come to me with their different ailments; and let me say that all along this line I have become more and more satisfied that nearly all the ills that flesh is heir to in the way of sickness and disease come about directly or indirectly through the water we drink and

the food we eat. Quite a few intelligent writers on health have suggested that, when one is traveling, and has learned by past experience the danger of drinking water from different sources, he can easily get along without drinking water at all by the use of juicy fruits; and it has been suggested that nature has provided all the drinking-water we need under ordinary circumstances through the medium of juicy fruits that can be had at most seasons of the year; that is, a person in ordinary health can, if need be, substitute fruit juices in place of the water from wells of different localities (at meal time he can readily use boiled water). Cistern or rain water of the requisite purity can not be readily obtained in many localities; that is, no proper provision has been made for preserving the water, especially in hot climates. Now, this matter of using fruits to such an extent would not accord very well with the lean-meat treatment. How does this come? Well, in the first place nobody is expected to take up the lean-meat diet unless his health is failing in some way. In the second place, a great many people can eat fruit at the same time they are on the lean-meat diet, if used *at proper times* and in proper quantities. I wish to put a special emphasis on the last of those statements. And this brings me to the subject of our talk—moderation.

I have been greatly pleased to find, during the past summer, that I could eat certain kinds of fruit, not only with impunity, but that it does me good, and really assists digestion, if taken at the proper time of day. My remarks are now perhaps chiefly for older people, or those who have impaired digestion. Children—the greater part of them—eat fruit at all times and under all circumstances, and many of them in almost unlimited quantities, without harm. Most of us can remember the time when we went out to the orchard and ate all the apples we wanted, whenever we took a notion; but as we grow older I think the greater part of us find it behooves us to use moderation.

I have found during the past summer that certain kinds of fruit at certain times have not only improved my digestion, but given me buoyancy and strength of spirits. I have told you about that harvest-apple tree. And, by the way, somebody at the center of our government has been reading what I have said, and the United States Pomologist, at Washington, has been kind enough to inquire about those that grow in our own dooryard. See another part of this journal. Well, as soon as those harvest apples near our door commenced getting real ripe and mellow, I had a conviction that I could take them right from the tree and eat them without harm. I found this to be true providing I ate them during the middle of the forenoon, say about the time I have been in the habit of taking my hot water. I do not care for them particularly at breakfast; but about two hours afterward I become "apple-hungry;" and it has been a source of most keen enjoyment for months past to go right to an apple-tree, select a nice smooth apple that is just as mellow as it can be without being over-ripe. I sit down and eat this at my leisure, being careful to remove all peeling with a sharp knife, and taking out the core and every thing that may prove injurious or indigestible. Then my apple is eaten slowly, and chewed until it is almost like a baked apple. In this way I have decided a nice apple to be more delicious to me than peaches, pears, or even strawberries. I can *usually* eat two good-sized apples between nine and ten in the morning; but I think one pretty fair apple is a little safer. If I am going off on a wheelride I can eat as many as I

choose, and will be all right; but after having made many careful experiments I am convinced that safety lies along the line of moderation. Don't overload and clog the machinery of digestion just because God's gifts are delicious. Now in regard to vegetables:

I have been having an excellent appetite all summer. I never sit down to a meal without a feeling of thankfulness to God. If the circumstances are such that I am not prepared to thank him out loud I thank him in my heart. Well, with this good appetite there is great danger of overeating. Perhaps I should be ashamed to say it, but I think I might as well *confess* that it is quite a little cross for me to break right square off when I do not feel half satisfied, especially when others at the table keep right on eating without seeming to be obliged to exercise any control over their cravings at all. One day we had a new muskmelon and a new watermelon on the table for dinner. There were also some new kinds of peas and lima beans, if I am correct. I wanted to taste of all of those things, but I feared the consequences. I thought I would try an experiment. By the way, when I overdo this matter of cutting off, the only trouble is I get faint and nervous before the next meal. But it is not very often that I make a mistake in that way. Well, on the day in question I first ate half or less than half of my usual quantity of meat. Then I ate a very few beans and a few peas, a small piece of bread and butter, and some apple-sauce; one small slice of watermelon and ditto of muskmelon. I was hungry for all these things, and had eaten perhaps half the usual quantity. But I was seeking for *truth*, and so I broke away from the temptation to even taste *any thing* more, and carefully watched Dame Nature during the afternoon. I was greatly rejoiced to find that at supper time I was not as weak and nervous as usual. I had not lost strength, but could have worked half an hour longer or more if I need be; neither had I any unpleasant reports from the regions of digestion and assimilation. Every thing went on as quietly as if I had eaten only meat. The whole secret lay in eating just enough and no more, and letting Nature have just what she could handle nicely without being overloaded or clogged. Let me now give you a lesson on the other side:

This (Oct. 1) is the fourth day it has been raining almost continuously. I have been confined to the office pretty much all the time. I have not ridden my wheel, and scarcely been out in the gardens. At such times I have to be more careful of what I eat. My breakfast and dinner yesterday were pretty moderate because I had certain warnings that there was danger ahead. The consequence was, last evening I was very faint long before five o'clock. It seemed as if I could hardly wait until all the members of the family were gathered at the table (at our home we always ask a blessing first, and therefore no one present commences eating before all the rest are ready). I ate my usual quantity of beefsteak; but at the same time there was a craving for something else, I didn't just know what. I finally spied a dish of milk toast. Now, I had not tasted of a bit of milk, either raw or scalded, for a month or two previously. Several times it has made bad work. Last night, however, it seemed as if that milk and toast would hit the spot; and a trial seemed to accord with my feelings to such an extent that I was helped to toast the second time. I went to bed feeling all right, and was rejoicing to think I had got so far along that I could eat even milk with impunity. Just before the clock struck twelve I was awakened by certain well-known unpleasant feelings. Be-

fore I got to sleep again I heard the clock strike twelve, half-past twelve, one, and half-past one. During this time I had vomited *five* times. Mrs. Root asked me what it could have been I had eaten. She could hardly believe me when I said it was the milk toast. But there was no mistaking it; and part of the milk and toast was just about as I swallowed it at supper time. Certain other parts, however, that seemed to be at the "bottom" of the mischief, were bitter and acrid. It fairly scalded my throat and mouth as it came up. It seemed to have turned into sharp vinegar and wormwood; and when I came to taste and smell the stuff I did not wonder a bit that I felt *sick*.* Now, for many years milk and toast was the safest thing I could eat. Dr. Lewis told me, you may remember, that I had lived on milk so many years I had got what they called milk dyspepsia; and he said that, while milk is excellent food for most people, he did not believe I should

*I want to tell you that, when I was half through my supper the night before, I said to Mrs. Root something like this: "As I have had just a little bit of my peculiar headache this afternoon, I shouldn't wonder if it would be better for me to stop off right here and not eat another bit; but I am so very hungry, it would be a good deal of a cross to do so." And this reminds me that Dr. Lewis said that people with impaired digestion have at times an unnatural or morbid craving for food; and this craving is almost on a par with that which the temperate man feels for liquor. He said it would seem almost impossible at times to withstand the temptation. Nevertheless, one must conquer it. It would ill become one who professes to be a Christian, to censure a drinking-man while at the same time he himself did not control his own appetite in eating.

By the way, the conviction again and again forces itself upon me that the workings of the human system are very much like that of the interior of a bee-hive. I have told you in the A H C book of my experiments in the way of introducing moldy and moth eaten combs into a strong colony of Italians. They will, during a good honey-flow, cleanse it and make it sweet, pure, and clean, in an hour or two. When I first discovered this (by putting in one comb at a time) I was so astonished that I could hardly believe my eye—that is, that they could do such an amount of cleansing in so short a time. Then I gave the colony two or three combs to clean out and fix up. It was done almost as quickly; at last, I removed all the combs from the hive but two or three, and replaced them with combs that had become moldy and practically spoiled on account of some leaky hive covers. The bees finally decided that I was carrying things too far, and so they swarmed out, thinking they could find an empty hive, and fill it with comb cheaper than to put up with such indignities. Well, are not our digestive organs much like the bees? They do not "swarm out," but they decide, when there is an *overflow* of unhealthful rubbish, that it *must* be got rid of, and that speedily, in one of two ways. A wonderful thought comes to me right here—who *does* this deciding? It was not myself, for I was sound asleep. I did not direct the "dumping" process, for I emphatically objected. In fact, I was a silent, suffering victim. As I knelt on my knees, with tears in my eyes and anguish in my soul, no one could say that I was "bossing things." Let us now look at the bees. Who decided that it was the best thing to do to swarm out and desert the filthy combs? It was not the *queen*, for she is perhaps as much or *more* the servant of the workers as any one of them. Did the workers hold a council? If so, how did they communicate one with another? Physiologists tell us there is something that takes charge of the economy of the human system that is entirely separate from the individual himself. There is a something or somebody that decides what is best to be done, and proceeds to do it—a sort of involuntary action of the injured organs and processes of the system. It keeps the lungs breathing, the heart beating, directs digestion, defends and protects the life of the person, and without his knowing any thing about it.

I will give thanks unto thee; for I am fearfully and wonderfully made.—Ps. 139:14.

ever get so I could use it very much. Well, I have had half a dozen experiences since he told me that, with about the same result as above. He said if I used milk at all I would have to go out to the stable or into the pasture where the cows were being milked, and drink it just as soon as drawn from the cow. He did not say any thing about microbes and fermentation; but, dear friends, I am afraid it is a fact that fermentation commences in a very few hours—sometimes inside of an hour—with many things of this kind. During hot weather a change can be detected in sweet cider within an hour after it has been left exposed to the open air. I have not tried milk right from the cow of late, but I know of other people who have. They can take it so when it can be taken in no other way. You see, this is like going to the apple-tree and taking a perfectly ripe apple right off from the limbs. An apple that is very carefully picked and laid away without bruising may be as wholesome weeks or months afterward; but I doubt it. I think I can eat apples picked right from the trees with more safety than one that has been gathered several days. I have satisfied myself that an apple that has been lying on the ground for some time is not as wholesome for me, especially if it be bruised or has commenced to decay.

I suppose you know, of course, how much has been said in regard to sterilized milk and sterilized honey and other articles of food. And this brings us to the matter of making things more wholesome by cooking. When jelly or preserves begin to spoil, the good housewife scalds them, and then they are good for quite a long time, especially if the weather is cold. By the agency of heat we may destroy the germs of fermentation, and make food wholesome. Chicago is just now suffering from a terrible epidemic of typhoid fever. By some means the sewage from the city has got into the lake, so as to contaminate the water; and physicians are urging people to boil all their drinking-water. The reason that the fever still rages is because people absolutely refuse to obey the physicians. This thing has been enacted again and again in our great cities. It seems to be impossible to get everybody to obey when the matter is explained to them, or else they forget about it, and then they "go dead" as a consequence of their stupidity or forgetfulness.

You know how much has been said about drinking hot water; and, by the way, one of the best remedies for the green cabbage-worm is to scald them with water hot enough to kill the worms but not hot enough to injure the plants. The plants will stand a great many degrees higher temperature than the soft worms. Now, when your stomach gets into a state of fermentation you can kill the microbes—that is, if you choose to call them microbes—by the use of hot water. You may say that water hot enough to neutralize fermentation would scald the stomach. Not so. With a little practice you can learn to drink water safely that would scald your hands or even your lips if you let it touch them. Sip it slowly just as hot as you can bear it. Keep doing this until you have taken a pint, more or less, or until the contents of the stomach are so hot that the beer brewery down there has quit business. I once asked Dr. Salisbury if beer was not a good thing as a tonic for some people in poor health. He replied something like this: "Why, Mr. Root, when one has a beer-brewery on a small scale already in his stomach and intestines, how are we going to help the matter by pouring down *more* beer? The alcohol that is contained in the beer is by no means the only harmful part of it. Where one has sour stomach, and

his food is rotting in the intestines, instead of nourishing the body, the very worst thing in the world he can take into such a digestive apparatus is beer. In fact, beer often starts this form of dyspepsia." In place of the beer, take hot water, as I have described, at the proper time between your meals, and you wash and scald out the whole apparatus as a skillful housewife would scald out utensils that had contained milk. I suppose you know there have been terrible troubles in the milk business just because certain venders neglect to scald properly and cleanse their milk-cans. And, by the way, this hot water that has been such a benefit to my health has now become the most delicious drink to me of any to be found in the world. I like it better than any tea or coffee or any similar concoction; better than cider, wine, beer, or ale; and I have during my lifetime—at least years ago—known about as well as most of you what it is to have a craving for beer. Thank God, I now prefer pure hot water; or when I feel that I need something in the way of acids, fruits, and the like, I like a nice ripe apple, right off from the tree, as well as any other fruit in the world. My friends, if your digestion is poor, be careful to eat fresh fruits right from the trees or bushes. Do not take any chances on any thing that has the least bit of a start in the way of fermentation. Go out into the orchard and help yourself when you are very hungry for fruit.

But above all things make use of all of these precious gifts in *moderation*. The greatest enjoyment that can be secured from any of these wonderful blessings from a kind and loving Father is found in using them in moderation. Because a thing is good, and because the animal part of your organization calls for more, act the part of a wise man and stop on the safe side. The Bible is full of the most precious promises; but none of them are for the glutton or the selfish man. It is right and proper for us to enjoy these things; but it is a terrible thing to let appetite and our fleshly cravings run away from good sense. A locomotive needs a wise and skillful engineer. Without him it is good for nothing except as an instrument of destruction. So with the human make-up. We are created in God's own image, if we let sense and reason and moderation reign; but when we fail, and let *self* reign, then we are not in God's image at all. On the contrary, we are an image of the Devil himself; and his entire work is all along in the line of selfishness and selfish gratification. Why, just think of it. When Satan gets hold of a man this man will sometimes voluntarily barter home, reputation, and every thing he has in this world, for the privilege of gratifying a low passion for just *one single minute*. It seems astounding, and it seems as if it could not be; but yet these things come up every little while to startle whole communities.

In the neighboring city of Akron a young man lies in jail awaiting his removal to Columbus for execution; for in this State all executions take place in the Ohio Penitentiary. By his own confession he planned murdering an entire family simply that he might succeed in gratifying a passion that he had been nourishing and meditating upon for weeks and months. He did not even consider how he was to evade justice, unless he planned a suicide after he had accomplished the thing his imagination so long dwelt on. But for an accident he might have succeeded in his plan. As it was, he murdered an old farmer and his wife, and their hired man, and came very near killing two daughters of the murdered parents. I dislike to mention such awful crimes; but there may be a wholesome lesson in it if it reminds us of what Satan

may do when he once gets hold of one, and gains control of the imagination.

What has all this to do with keeping control over the appetite, or cutting short your dinner when you are only half through? Why, one is the beginning of the other. The man who has found by experience that his welfare depends upon moderation in eating, and who has the manhood to say to appetite, "Thus far and no farther," *this* man has taken the first step toward being a *Christian*. The one who says he is going to have enough to eat, no matter what the doctor says, or anybody else, is likely to land in a drunkard's grave or the prison-cell, with the gallows ahead of him. Let me close by repeating a few Bible promises that strike in line with what I have been teaching:

To him that overcometh will I grant to sit with me in my throne, even as I also overcame, and am set down with my Father in his throne.—REV. 3:21.

Eye hath not seen, nor ear heard, neither have entered into the heart of man, the things which God hath prepared for them that love him.—I. COR. 2:9.



THE NORTH AMERICAN BEE-KEEPERS' CONVENTION AT LINCOLN, NEB., OCT. 7 AND 8.

There is a good deal said about railroad companies and railroad officials not being accommodating; but I have not found it so when they are approached in the right way, and when my requests have been reasonable. In making our trip to Lincoln we left Medina on Monday morning, Oct. 5, and should have been home Saturday morning were it not that one of the trains from Chicago was over an hour late. As it was, I reached home by Saturday noon by using my wheel for the last 25 miles. We are very much indebted to Mr. P. S. Eustis, General Passenger Agent of the Chicago, Burlington & Quincy Railroad, for courtesies extended in making the trip so quickly and pleasantly; and, by the way, the whole C., B. & Q. R. R. seems to be under excellent management all the way through. The road is so smooth, and the coaches are in such good condition, that we made the whole distance—something like 2000 miles—without feeling tired at all. But I shall have to defer till our next issue a fuller account of our trip on the cars.

There has always been more or less inconvenience at our national conventions from the fact that few of those who attended the year before are present at the convention. Our country is so large that it has been found advisable to move the convention about from place to place in order to give all the bee-keepers a chance to attend, so that each gathering, as a matter of course, is for the most part made up of those who have rarely or never attended before. On this occasion the gathering was made pleasant by finding at least a few of the veterans. From Ohio we had Dr. A. B. Mason, Ernest, and myself; from Illinois, Dr. C. C. Miller and our good friend York, of the *American Bee Journal*. From Missouri we had Rev. E. T. Abbott and his good wife, besides quite a few other friends we got acquainted with at St. Joseph, Mo., two years ago. From Nebraska we had friends L. D. Stilson and Hon. E. Whitcomb; also Mrs. J. N. Heater, of Columbus, Neb. The State University at Lincoln gave us some excellent help in the way of talks from Prof. Bruner, on entomology, and Prof. Charles

E. Bessy on botany—its connection with bee culture. Eugene Secor, of Iowa, contributed not a little by his wonderful poetic talent.

The meeting was opened by chapel exercises in a beautiful room in the University building, with from 600 to 800 of the students present.

The first paper was on the importance of water in the apiary, by friend Whitcomb. It was to the effect that much of our spring dwindling is caused by bees being obliged to come out at untimely seasons in pursuit of water; and still further that, when they find the water, it is generally icy cold. The speaker thought bees were lost by going quite a distance from the hives after water, and thereby being exposed unnecessarily to chilling winds. On the western prairies perhaps this is more often the case than here in Ohio, where water is almost always to be found near by. Friend W. advised providing water in fruit-jars inverted on a grooved board, as described in the A B C book. If this arrangement is placed in the sun, the glass jar acts like a miniature greenhouse, keeping the water several degrees warmer than the surrounding temperature.

"The wild Bees of Nebraska," by the entomologist, Prof. Bruner, was in regard to bumble-bees and other smaller bees that visit the flowers. I for one was greatly astonished to learn that there are something like 200 different kinds of bees in our country, not counting the honey-bee; and in addition to this there are about 60 kinds of bumble-bees all together. Ten different varieties of bumble-bees are found in Nebraska. Some of the wild bees are quite small—so small, indeed, that they might be called gnats, or even smaller than that. Their office in life seems to be to insure the fertilization of the different varieties of plants. The plants can not well get along without these special bees, and the bees can not very well get along without these special plants. I gathered from the talk that not all of these have stings. Prof. B. told us, however, to look out about meddling with any sort of insect having *rings* about its body. Wasps, hornets, and yellow-jackets belong to still another family. These subsist mainly on animal food—other insects such as spiders, etc.; but some of them—hornets and yellow-jackets, for instance—have a sweet tooth for honey. None of these wild bees gather honey and store it up except the bumble-bees; and none of them, not even the bumble-bees, winter in clusters like the honey-bee. They all get through the winter by a sort of hibernation. Honey-bees do not hibernate—at least, not in the strict sense of the term. Hibernation belongs to insects and animals that lay up a sufficient supply of food in their own bodies, and then become torpid; and in this state they are not dependent upon being inside of a cluster of others of their own kind as are the honey-bees—

Prof. Bessy's excellent talk on botany's as related to bees was a sort of supplement to the talk on entomology. He likened the flower to a mouse-trap. We put a piece of cheese in the trap to entice the mice; the trap is so arranged that the mouse must pass the danger-line in order to get the bait. Dame Nature baits her floral trap with a minute drop of honey. She, too, places the bait beyond a certain object to be attained. The bee can not get the honey without brushing the pollen; and thus Nature, by a baited trap, accomplishes her object of fertilization. Besides the sweet nectar, Nature hangs out a flag—a gaudily colored flag—to attract the bee; and in order to make things *doubly* sure she also equips the plant with an apparatus for sending out a beautiful and enticing aroma—the perfume of the flowers. The

perfume and the gaudy colors and the drop of nectar are all to the intent and purpose of getting the swift-winged bee to accomplish this most vital and important work in the economy of the plant.

I am very much in favor of "experience-meetings," and some way or other a little experience-meeting got in just along here. T. K. Delong, of Angus, Neb., reported 450 lbs. of honey during the past season, from a single colony placed on spring scales. He brought a sample of the honey, and gave it as his opinion that this large amount came principally from heartsease. Some of the experts, however, who tasted it, pronounced it mainly white clover. He had only 20 colonies in his apiary, and only one other of the 20 gave an equal amount.

I shall not attempt a review of the papers that were read, for you can find them all in the *American Bee Journal*. If you do not take it regularly it will certainly pay you to send for the issues containing the papers and reports of this convention. There were papers from Mrs. Heater, Prof. Cook, L. D. Stilson, E. T. Abbott, Geo. W. York, and others.

The address of welcome was to have been made by the Governor of the State; but, he not being present, it was given by Lieutenant-governor Moore, followed by one in behalf of the State University, from Chancellor McLean. Hon. Eugene Secor, of Iowa, responded by a poem delivered offhand, which will be given in full in our next issue. It reminded me strongly of some of the finest productions of Will Carlton; and I hope the world at large may think as I do about it, and that we may soon have a book of poems from friend Secor; and I do not believe it is best to wait until he dies before we discover that, in point of merit, we have few his equal, either in the past or present.

I must confess that I have not read all that has been said in our bee-journals for some time past about the matter of union and amalgamation; but it was so well presented by different ones at our convention that I believe I may say truly there was hardly a dissenting voice when it was proposed to take such steps as we were able to take then and there toward uniting the Bee-keepers' Union and the North American. For some time past, as our readers may be aware, nothing has been done in the way of defending our bee-keepers, although quite a sum of money is now stored up belonging to the Union, waiting for an occasion to use it.

Dishonest or snide commission men are becoming so bold that the police are taking them in hand; and yet the bee-keepers of America are doing comparatively nothing unless it is to expose them through the bee-journals. Away out in Nebraska, corn is down or has been down to 10 or 15 cts. a bushel. Glucose has come down correspondingly, and the temptation to adulterate honey and other sweets is greater than ever before. These dishonest swindlers are pushing ahead almost without rebuke. With a live organization of bee-keepers with only a little money—that is, a little comparatively, from each one—say a dollar a year, more or less, we might be a terror to evil-doers; and, God helping us, we mean to be a terror.

Now permit me to say briefly that our association has done all it can do. We have framed a constitution that was accepted unanimously at Lincoln; and now we only await the concurrence of the different members of the Bee-keepers' Union. I think the actual members of this Union are now about 200. The money in the treasury is between \$600 and \$700.

The next place of meeting is to be Buffalo, N. Y. The time is not yet determined. Our good friend York, of the *American Bee Journal*,

is to be President, and Dr. A. B. Mason Secretary. These two have the matter in hand, and know what was done at Lincoln—at least they ought to know, for they, with the best men of the convention to aid them, between sessions were busily engaged framing a constitution. It was afterward submitted article by article, and in some cases sentence by sentence, for the approval of the whole convention, and finally with one accord adopted. This will be published in our next.

The actual number of bee-keepers present, I believe, was between 50 and 75. Those of us who were from out of the State were most courteously—nay, I might say royally—entertained free of charge at the hotels. If there is a pleasanter or more comfortable hotel to be found in Lincoln or in any other city in this whole United States than the Lindell, where we stopped, it has not been my good fortune to find it.

Besides our excellent entertainment we were taken all over the city on one of the electric-car lines; and finally Chancellor McLean marched us through the wonderful buildings of the Nebraska State University. We saw the students actually at work, and finished up by taking a hasty view of their beautiful library building and contents.

Lincoln is a most beautiful city; and in point of education the Nebraska people seem to be fully abreast with the times and the world, even if they do sell corn at a price so low that it is cheaper to burn it for fuel than to buy coal. Long live Nebraska and the good friends who entertained us so handsomely!

I do not want to close without making mention of the good women who brightened our meeting and cheered our deliberations by their presence; yes, and two of them brought their babies. Nebraska, we were told, is about 500 miles long and 200 wide—big enough to plant some whole European kingdoms in, and have room enough then for quite a few of our Eastern States to be chucked in one of the corners. The soil is sufficiently fertile to supply the world with both corn and sugar; and if there is any thing else the world would like after that is done, I think the Nebraskans would be willing to turn in with a will to fill the contract. I saw a few saloons in some parts of the city; but I do not believe they are doing a thriving business. The schools and theological seminaries in the vicinity are not conducive to a good trade in intoxicants. May God help Nebraska in the work she is trying to do!



THE APPLES IN OUR DOORYARD, AND CALLING APPLES BY THEIR RIGHT NAMES.

We were agreeably surprised, shortly after having mentioned our beautiful apples in GLEANINGS, to receive the following:

U. S. DEPARTMENT OF AGRICULTURE,
DIVISION OF POMOLOGY,
WASHINGTON, D. C.

Mr. A. I. Root:—Can you send us a few specimens by mail of the apple "Queen Anne," mentioned in the last number of GLEANINGS? We are unacquainted with this variety unless it should prove to be Lowell or Mother, of which *Queen Anne* is a recognized synonym. A mailing-box and frank have been mailed you which will bring the specimens free of postage.

Sept. 3.

WM. A. TAYLOR,
Acting Pomologist.

We at once gathered specimens of the Queen Anne on our own grounds, and also got some of a neighbor that were a little different, but which he declared were the real Queen Anne, and I mailed them as above. Below is their reply:

Mr. A. I. Root:—Replying to your favor of Sept. 8, I would state that neither of the varieties sent as Queen Anne is correctly named. Queen Anne is the synonym of *Lowell*, a variety having a very oily skin, and on that account is often called Greasy Pippin. Again, Queen Anne is a synonym of Mother, a variety having its season from November to February. Neither your nor your neighbor's apples resemble either the *Lowell* or Mother.

Your apple is, I think, beyond doubt, Cocklin's Favorite, an old Pennsylvania variety, far superior to the Maiden's Blush. Your neighbor's apple is Cooper's Early, formerly called Cooper's Early White. This is a very superior apple, and I should be pleased to have some scions next spring.

S. B. HEIGES,
Pomologist.

Sept. 12.

Now, friends, it has given me much pleasure to know that what I write in GLEANINGS has interested somebody at the great head of our nation, and it also gives me more pleasure to know that an expert pomologist has been employed by the government to straighten out our varieties of beautiful apples, and especially to remedy, so far as may be, the trouble of having several names for the same apple, and several apples for the same name. Just now I believe I should pronounce the apple in our dooryard Cocklin's Favorite—the most luscious and refreshing apple, when perfectly ripe, of any thing I have ever got hold of in the whole apple family. If you want the Pomological Department at Washington to set you straight on the names of the apples you grow, correspond with them as above. By the way, our readers may be pleased to know that the new Standard Dictionary defines about 335 kinds of apples, with a great many of the synonyms—that is, the different names for the same varieties of apples. And, by the way, this dictionary corroborates what Prof. Heiges says; namely, that the Queen Anne is only a synonym for the *Lowell*.

NOVELTIES IN FRUITS, ETC., PUT OUT BY OUR ENTERPRISING SEEDSMEN; THAT BEAUTIFUL NEW PLUM, THE "SLOE."

Friend Root:—In the last GLEANINGS you speak of two of the novelties sent out by the seedsmen in the past two or three years—the Rocky Mountain cherry and high bush cranberry, but you do not speak very highly of them. If I am not mistaken, I reported to you that the Rocky Mountain cherry was not fit to eat, last year, but was in hopes that it might be better on other soils and trees. It came well recommended from the West, but not so highly as to give one the impression that it would take the place of the common cherry; but some seedsmen, without any conscience, try to make folks believe it will.

The tree cranberry belongs to, or, rather, is the original form of, our common snowball-bush (*Viburnum opulus*). The snowball has been cultivated for its flowers until every one knows it: but the tree cranberry, or high bush cranberry, had to wait until the seedsmen got hold of it and introduced it—certainly not a very high recommendation. It may have some good qualities, but I am extremely doubtful whether it can ever be compared with the ordinary cranberry.

I would suggest that you wait until cold weather, when the frosts may improve its qualities.

I think if you look into the matter you will find that the experiment stations test the new varieties of fruit as fast as they come out, or, at least, the Ohio station does. But the trouble is, you do not give them time enough. Your tests are just as reliable; and I have noticed, when looking over your gardens, that you are often ahead of them.

The fruit you speak of seeing at Remson Corners is the sloe, and belongs to the same family as do our

wild plums, but of a different species. Its botanical name is *Prunus spinosa*, while the wild plum found in Ohio is *Prunus Americana*. My wife, who has known the sloe since she was a little girl, says it makes the best of preserves, and is good for drying.

I have been very much interested in the wild plum for several years, and this year I saw the orchard in bearing set out on the State University grounds; and such loads of fruit as some trees were carrying would surprise a person. The fruit of different varieties ripens from July to October, and ranges from a golden yellow to dark red in color. The trees are hardy and vigorous. The experiment station at Wooster has an orchard of over one hundred varieties, which will be worth going to see when it comes into bearing. My brother in Granger has quite a collection of young trees.

Columbus, O., Sept. 22.

E. C. GREEN.

Thanks for your suggestions, friend G.; but the frost can not improve the tree cranberry, because they have ripened and rotted on the bushes. It may be they have been prematurely early this season, because every thing else is ahead of the usual time. We are glad of your suggestion, however, and will wait another year before deciding that they are absolutely unfit for use as a fruit. Who can tell us more about that sloe wild plum? and where can trees be purchased?

THE GAULT RASPBERRY, ETC.

You wonder if others who got plants of you are having such big bunches of nice large raspberries. Yes, you ought to have seen how full my bushes were the first ripening. The most wonderful thing about it is, I planted one row of Cuthbert by the side of the Gault; and what do you think is the result? Why, they have the same habit of giving a second crop of the nicest and largest Cuthbert raspberries I ever saw. I shall have Cuthbert raspberries till frost makes an end of them.

The Thoroughbred potatoes I got of you are about as nice as any thing can be.

Now a word about my bees. I had the worst swarming-time I ever saw. Of course, I managed so they did not all cast swarms. On some I put a Simplicity top with 10 frames on top of the one-story chaff hive. Those did not swarm. I had only about 21 that did swarm. Well, I hived 64 swarms; let some 9 or 10 go to the unknown, and hived back whence they came out about 10 or 12.

A NOVEL WAY OF SALTING BEES.

I salted my bees well. I strewed the salt all along under the eaves of the house. The bees licked up the salt water like sheep.

JOHN SLAUBAUGH.

Egdon, W. Va., Sept. 10, 1896.

SECOND-CROP THOROUGHbred POTATOES.

I here comply with your request, and send you my report of the second crop of Maule's Thoroughbred potatoes I received from you in July as premium. I received 72 eyes in 2 lbs. I dug the ground with a spade, and cultivated by hand. The soil is prairie loam, well fertilized previously, but I put no fertilizer on this year. Ten hills came up in about two weeks after planting; and from planting to date 32 out of 52 hills planted have come up. The last came the latter part of September, and is now about 3 inches high. The first ten hills promise a fair yield; and if the frost holds off until December I think the rest will bear potatoes, as they are growing vigorously. I do not write this to find fault, but to say to you that, if the first crop produces a second, they must be better ripened before planting.

JOHN E. TAWNEY.

Cedar Bluffs, Neb., Oct. 3.

We clip the following from the *Practical Farmer*:

I got one pound of Maule's Thoroughbred from Mr. Root, and raised over a bushel of tubers.

Demorest, Ga.

A. M. M.

GINSENG.

For some time I have been wondering why we received so many inquiries in regard to the root ginseng. Mr. Calvert suggests that the brokers who buy up beeswax throughout the country are also in the habit of purchasing this root for the Chinese trade; and as we handle beeswax in large quantities they naturally take it for granted that we buy the ginseng also. Just now I am reminded that it has been my impression for some time that there was a swindle somewhere connected with this ginseng business. There are items going about the newspapers, and several have been sent here with the request that we publish them. In regard to growing ginseng for the market, my impression is somebody expects to make a lot of money by selling seed or may be roots. I have wondered for some time that the market continues to hold out at such prices for the root. If the Chinese would use their money instead to buy the cheap corn and wheat we have on our shores for their starving multitudes, it would be more sensible and Christianlike. Ginseng is hardly recognized as a medicine in our country. The Chinese are ransacking the earth in search of it, and expending thousands of dollars, so far as I can learn, just because of a superstition of their own in regard to it.

Special Notices in the Line of Gardening, etc.

By A. I. Root.

MAULE'S THOROUGHbred POTATOES.

Prices of potatoes will remain as given on page 729 of our previous issue, with the exception of Maule's Thoroughbred. This has been advertised in one of the agricultural papers at a lower price than ours; therefore we make the price as follows: $\frac{1}{2}$ peck, 60 cts.; peck, \$1.00; $\frac{1}{2}$ bushel, \$1.75; bushel, \$3.00; barrel of 11 pecks, \$7.00. If anybody has paid a higher price this fall, if he will mention it we will give him the proper rebate. On the White Bliss Triumph potato I think I gave the price rather too low. I am told that it can not be had anywhere else for the money. Our second size is all gone, and the firsts are going rapidly. Thoroughbreds will still be offered as premiums for subscribing. One pound will be presented to everybody who sends us \$1.00 for GLEANINGS, past, present, or future; and \$1.00 worth (one peck) will be given to every present subscriber who gets us a new name; that is, to every present subscriber who gets GLEANINGS introduced into some home or locality where it has not been going before, and who sends us \$1.00 for same. The premium potatoes are given with the understanding that the recipient pays postage if wanted by mail.

THE WHITTAKER ONIONS AND WHITTAKER ONION-SETS.

We are entirely sold out of the sets, but have a few large onions left. As we are obliged to buy the sets and pay a larger price, we can not furnish any more of the small size or sets at less than 18 cts. a quart; \$1.25 per peck, or \$4.00 per bushel. We can, however, make a lower price on the large onions than we have ever offered; namely, 10 cts. per quart, 75 cts. per peck, or \$2.50 per bushel. Please bear in mind, friends, that these and the multipliers do not make sets or seed. They are simply large onions or small onions, or intermediate. If you plant the small ones, they grow big; if you plant the big ones they grow little. They grow little by bursting apart and dividing into a large number of small ones. I presume the Whittaker onions will winter safely if planted any time before the ground freezes; although it is better to plant them soon enough so they get well rooted before freezing weather. If they should not get rooted, some sort of mulch will probably be needed. I can not tell very much about that. We consider them very valuable because they are so exceedingly hardy, make great large nice onions, and never bother by sending up a seed-stalk.

KIND WORDS FROM OUR CUSTOMERS.

Dear Bro. Root:—Your wheelrides no doubt are healthful to you; your sermons are beneficial to me, and I hope they are to all your readers.

Canova, S. D., Aug. 30.

L. R. HILLMAN.

About half of the 800 shipping-cases you sent me are now made up, and they're beauties. I thank you for the very exact workmanship on them.

Marengo, Ill., Sept. 21.

C. C. MILLER.

After one year's trial of the Crane smoker in a large apiary I find it the best one I have got hold of. The valves and bellows proper are entirely free from creosote, and no repairs yet.

Clinton, Me., Sept. 6.

JOHN REYNOLDS.

I wish to assure you that I appreciate GLEANINGS greatly, and have done so for years—formerly for the sake of its bee-literature, but lately mostly for what you have to say about the kingdom of God and his righteousness.

CHAS. WOHLBERG.

Hartshorn, Ind. Ter., Sept. 23.

We never have a season a complete failure here. Last year was reckoned a bad one, yet bee-keepers with 100 colonies got about 10,000 lbs. extracted. For all that, some of us would like to see the Home of the Honey-bee. In writing to Atlee Burpee & Co., of Philadelphia, last week, I said I often wished Burpee & Co. and A. I. Root were nearer to us. May A. I. R. be long spared to write for GLEANINGS.

T. M. HEWITT.

Lismore, N. S. W., Australia, July 6.

Friend Root:—The strawberry-plants arrived in good shape. I don't think I shall lose 10 plants out of 300. They were the best plants I ever received. Thanks for the extra ones.

We are thinking more of the A. I. Root Co. every year, and the way they do business. We think it is simply perfect; in fact, you are getting to be an old friend of ours, and you may be sure of our order for every thing we need in your line.

THOS. MEYERS & SON.

Carsonville, Mich., Sept. 1.

The 200 strawberry-plants came all right, and are doing nicely. I do not expect to lose more than half a dozen in spite of the dry spell. I planted them by lantern light the same night they came.

Richmond, Ky.

J. LOUIS SCHLEGEL.

[There, friends, here is one of the secrets of success. It is very much better to put out any kind of plant in the evening than in the morning. They get a little bit of start over night. Our friend, recognizing this, came out with a lantern rather than hold the plants over 24 hours to wait for another evening. This makes a vast difference between letting the plants lie three or four days, and may be a week, because some other business is on hand or something of that sort.]

Your travel on the wheel from New Philadelphia to Newcomerstown was interesting to me, as I was born about half way between said towns. In an early day when the wolves could be heard to howl, and the deer could be seen to trot around up the south branch of Fry's Creek, in Clay Township, 2 miles from Lock No. 17, and 4 miles from Port Washington. I have been in that town scores of times; and to see peaches at 10 cts. a bushel calls to mind when they could scarcely be sold or even given away (and here \$3.00 or \$4.00 a bushel)—a very big change there since the fall of 1831, when I first squealed.

Limerick, Ill., Aug. 24.

E. PICKUP.

OLD HYMNS—SHALL WE NOT KEEP GREEN THE MEMORY OF THEM?

Mr. Root:—A specimen copy of GLEANINGS has been sent to me. It is dated March 15, 1896, and on page 235 a writer (whom I take to be yourself) quotes four lines of a hymn, saying that he has not yet found the book containing it. One verse, as I recollect it, runs:

There is no name so sweet on earth.
No name so dear in heaven;
The name before his wondrous birth
To Christ the Savior given.
We love to sing around our King, etc.

I have contended for years that the singing should be one of the chief parts of the service—not singing by a hired quartette, but good congregational singing. I have been in cow-camps on the frontier of Texas, where swearing and vile language were almost all one would hear, when suddenly one of the boys would break out in some old hymn, and sometimes the whole camp would join in. It was but for a few minutes, but those few minutes may have kept the knowledge of Christ green in their hearts. Sermons and prayers had been forgotten, but they could not forget the old hymns.

Hotchkiss, Col., Sept. 27. HAMILTON L. JAMES.

[Dear brother, quite a number have told me where this beautiful hymn could be found; and one writer was so kind as to tear the leaf out of his book and send it to me. I most heartily indorse every word you have said in regard to the value of singing. Let us all do our part to keep it going, and to be sure that the refreshing and reviving power of the words and music is not forgotten or forsaken.]

A KIND WORD FROM A 12-YEAR-OLD ROOTLET.

On page 690 of our issue for Sept. 15 I mentioned that Miss Ellen Fenn, 12 years old, fed the planter so there was not a miss in that whole 18-acre field of potatoes. It seems, however, I did not give her full credit after all. See the following: †

Cousin Amos:—You made a mistake about our potato-planter. It is not the latest improved. It does not put any of the potatoes in the cups. I had to put all the pieces of potatoes in the cups myself, which was lively work. From a loving Rootlet, Tallmadge, O., Sept. 29. ELLEN W. FENN.

Since the above was in type we have received the following from the manufacturers of the potato-planter:

Mr. Root:—Since the cut was made which you used, we have made an important improvement by which from 60 to 95 per cent of the seed is fed automatically, the boy or girl correcting its work, putting in the misses and taking out the doubles.

Grenloch, N. J., Oct. 12. BATEMAN MFG. CO.

THE "SLOE" WILD PLUM.

This is doubtless the same as the one that grows here wild in the woods, on low branching trees 6 to 8 feet high. Negroes peddle the fruit about town every summer, at 5 cts. a quart. It makes splendid jelly, preserves, or pies, and, when dead ripe, can be eaten out of hand, though rather tart. The name here is spelled *sloe*.

Your last Home talk touched me in a tender spot, as quite likely it did many others. S. F. HERMAN. Tuscaloosa, Ala., Sept. 26.

I have taken GLEANINGS a number of years, and like it very much. I should very much miss it if it should be stopped. I think your talks through it are worth all the paper costs. A. G. COON. Boulder, Col., Sept. 27.

I wish to say just a word in regard to Home Papers. Their influence was one of the principal things that brought me into a better life. I am trying to live a practical Christian life. Kingsville, O., Oct. 6. O. S. BUGBY.



HONEY MARKET.

While considerable honey is moving, the prices realized are below any former year. Considering the good crop and the low prices on all commodities, prices of honey are no lower than we might expect. We have received an order for a ton of extracted honey from Sweden. We believe that, at the present prices, we might find a market for a large quantity of honey abroad. We offer choice new extracted in 60-lb. cans, 2 in a case, at 7c per lb.; last year's honey, equally good, at 6c, as it stands candied, or 6½ liquefied.

Fancy white comb honey in 1-lb. sections, 24-lb. cases, in lots of 100 lbs. or over, 14c per lb.; 200-lb.

lots at 13c. No. 1 white, 1c per lb. less. Fancy buckwheat, 3c per lb. less.

BEESWAX WANTED.

While we have a fairly good stock of beeswax, we are always anxious for more. The increasing popularity of the Weed new-process foundation helps us to use more of it. We are paying 22 cents per pound cash, 25 in trade, for average wax delivered. On goods taken in trade for next season's use we allow also the early-order discount. If you have any wax to dispose of, send it on to us. If you know of any lots seeking a market we shall be pleased to have you direct it this way.

BEE-SUPPLIES EXCHANGED FOR HONEY.

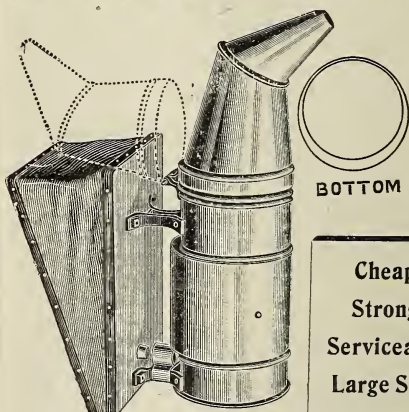
The honey market is active, and a great deal of very nice honey is being moved. We are finding an outlet for quite a little, and shall be glad to secure more in exchange for supplies. If you have any to exchange, give us a description of what you have to offer, how put up, and what quantity. If extracted, mail a sample, and state the price you wish to realize. If we can not pay your price we will tell you what we can afford to pay for such honey as you offer us.

POTATOES FOR SEED.

Burpee's Extra Early and Carman No. 1 are both sold out. We have just received several hundred bushels of the Freemans grown by T. B. Terry; and as we have often said before, if you want the finest eating potato that is to be found anywhere in the market you can not do better than to get the Freemans grown by Mr. Terry. They are good-sized, nice, and smooth. At the prices we offer them they are reasonable, even for an eating potato, providing you want the very best to be had.

We have just succeeded in getting some very nice Early Ohio entirely free from scab. Price 25 cts. a peck; 40 cts. per ½ bushel; 75 cts. per bushel; \$2.00 per barrel. THE A. I. ROOT CO., Medina, O.

The New Cornell Smoker.



Cheap,
Strong,
Serviceable,
Large Size.

JUST THE THING for those who want a first-class smoker at a medium price. Size of cup, 3¼ inches; curved nozzle, hinged so as to swing back; legs of malleable iron, secured by bolts. The blast is the well-known Cornell principle. Weight of smoker, only 20 ounces. Here is what one of our customers says of it:

The Cornell smoker is a Dandy with a big D. I have been using it to-day on the cross-st colony of bees I ever saw. I think I could drive a bulldog with it. S. R. AUSTIN. Amityville, N. Y., Oct. 15.

Price \$1.10, postpaid, or 85c if sent by express or freight with other goods.

THE A. I. ROOT COMPANY,
MEDINA, OHIO.